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THE
ORCHID REVIEW

Founded in 1893 by R. A. Rolfe, A.L.S.

An Illustrated Monthly Journal
OF ORCHIDOLOGY

EDITED BY GURNEY WILSON, F.L.S.

VOLUME XXXIII

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IS CORDIALLY DEDICATED.

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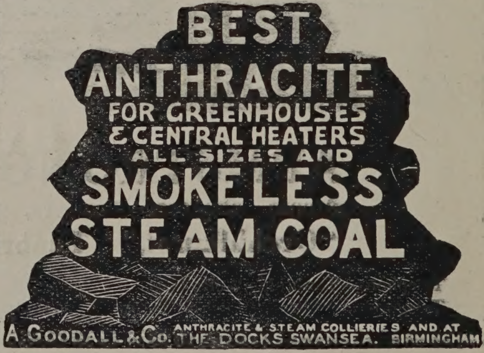
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23/10/24

“. . . . . . The orchids you sent arrived in first-class condition . . . .” (Signed) G.N.

17/11/24

“. . . I am indeed pleased to inform you that the box of Orchids so kindly sent by you on or about Sept. 25th arrived here on Tuesday last. The contents were in really excellent condition, and were much fresher-looking than Orchids I bring down from the hills, which are only 2 or 3 days on the journey. The packing was perfect, and it might interest you to know that the Cypripedium insigne Sanderæ did not lose a leaf. The Cattleyas are fine, and should go straight ahead.” (Signed) G.L.H.

SANDERS

Orchid Growers, ST. ALBANS

THE ORCHID REVIEW.

Vol. XXXIII.] JANUARY, 1925. [No. 379.

NOTES.

Cattleya Moira.—This hybrid was first recorded in 1913, the parentage being Fabia (aurea × labiata) × Mantinii (aurea × Bowringiana). Since then Messrs Stuart Low & Co. have flowered no less than 1,700 seedlings of similiar parentage, and, with two exceptions, all have produced flowers of varying rose-purple colour. One of the exceptions flowered last autumn, and came as a surprise, for the roundly formed segments were pure white, the only colour being seen in the rose-tinted margin to the labellum and some gold veining in the throat.

Cypripedium venustum pardinum.—It is always a pleasure to see well-grown examples of the old species, and on this account we noted with interest the five-flowered example of Cypripedium venustum var. pardinum, which occupied the central position in the group exhibited by A. J. Hollington, Esq., at the recent R.H.S. Autumn Orchid Show. This particular variety was described in 1887 as having larger flowers, the sepals of a purer white, with the veins broader and of a deeper green ; the warts on the petals larger and more scattered ; the lip of a brighter colour, with the reticulations more prominent.

Isotria verticillata.—A coloured plate of this species is given in *Addisonia,* vol. xi., No. 3, with the information that the plant is well distributed over the United States east of the Mississippi River, but is not so generally known as some species that are less frequent or abundant. Though the flower is bigger in outline than most of the native Orchids of the United States, the segments, except the lip, are slender and not highly coloured. The flowering precedes the full development of the leaves, the life-time of each flower is brief, a few days at the most. It is not often that the plant exceeds the height of ten inches, and it is frequently overshadowed by adjacent shrubs. Consequently, this species is not easily found, when in flower, even where it is known to be growing. Later in the season, when the leaves are fully grown, so that the whorl has a diameter of six inches or more, and especially if the capsule has developed, the plant is more readily seen.

SALE OF THE LEIGHTON HOUSE COLLECTION.—Messrs. A. J. Keeling & Sons have issued a catalogue of the plants contained in the collection of the late Dr. R. N. Hartley, of Leighton Honse, Pemberton, Wigan, Lancs. Over 500 items are enumerated, the Dendrobiums being in unusually fine condition.

OBITUARY.—We much regret to record the death, which took place on December 12th, of Major George C. Robertson, at Widmerpool Hall, Nottinghamshire. Major Robertson, who was in his 86th year, had been a keen Orchid amateur for nearly half a century, and he maintained his collection in representative style, by frequent additions, right up to the last few weeks of his life.

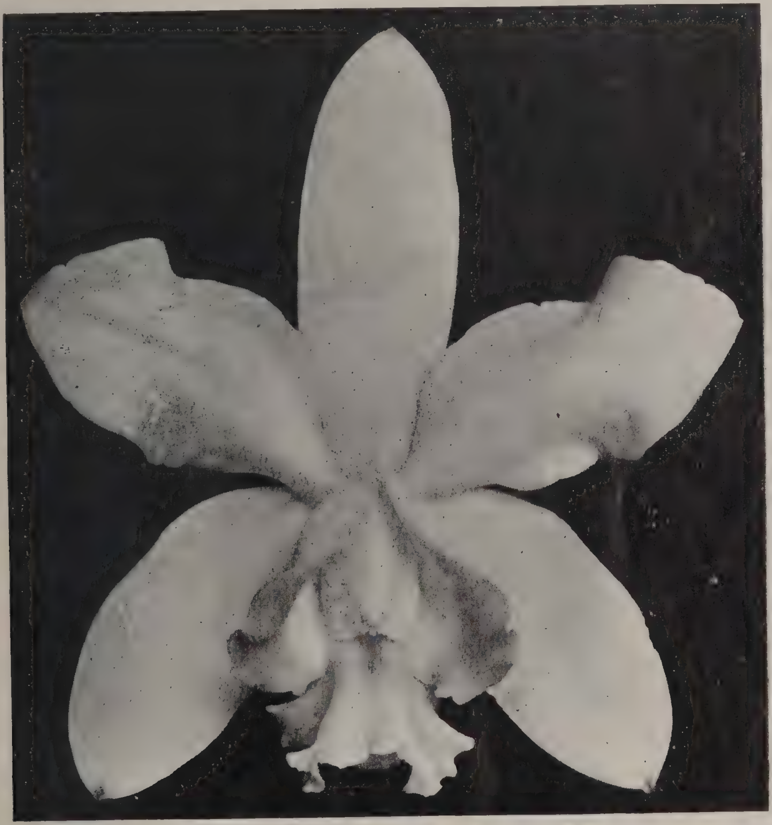
SOCIETE NATIONALE D'HORTICULTURE DE FRANCE.—With reference to the note in our December issue, p. 353, we are informed that the Prix Julien Potin was awarded to M. Marcoz, and the Julien Potin Cup, for the finest flower in the Show, to Brassocattleya Roland (C. Crepuscule × Bc. La Marne), exhibited by MM. Ch. Maron et Fils.

BOTANIC GARDEN OF HARVARD UNIVERSITY.—This Botanic Garden, famous in the days of Asa Gray, has lately been used only as a source of supply for material required for study by the botanical classes of Harvard University and Radcliffe College, but the Visiting Committee feels that this function alone is not a sufficient reason for its existence, and it has been decided to begin the formation of a living collection of all the hardy herbaceous plants that can be grown successfully in Cambridge, Mass., U.S.A. This has been started very modestly and cheaply by the purchase of seed and the gift and exchange of roots. Under the present management of its present Director, Mr. Stephen F. Hamblin, this work is advancing, so that in time this historic old Garden should become as noteworthy for its collection of herbaceous plants as is the Arnold Arboretum for its living museum of trees and shrubs. The endowment of the Garden has been far outgrown by the high cost of labour, coal, and other supplies, and it is earnestly hoped that contributions will be forthcoming to meet these expenses.

ADA AURANTIACA may be re-potted, as it passes out of bloom, into equal parts of peat and sphagnum. Allow plenty of drainage, so that during the summer months the plants may receive abundance of water without the compost becoming stagnant. In winter less will suffice, but never allow to become thoroughly dry. It forms a pleasing contrast with its orange-scarlet flowers arranged with Odontoglossums of the crispum type.

CATTLEYA LODDIGESII ALBA.

THIS species may be traced back to the early part of the nineteenth century, when it was described and figured under the name Epidendrum violaceum. It was then remarked: "This superb plant is a native of South America, and has been very lately introduced" (*Lodd. Bot. Cab., iv. t.* 337). This name it retained until Lindley founded the genus Cattleya, on the well-known C. labiata, in 1821. He stated that "The only other species of the genus with which we are acquainted is one which has been published by Mr. Loddiges, with the name Epidendrum violaceum. We propose to call it Cattleya Loddigesii" (*Lind. Coll. Bot., sub. t.* 33).



CATTLEYA LODDIGESII ALBA.

C. Loddigesii alba is pure-white, except for the pale sulphur tinge on the base of the front lobe of the labellum, and on the side lobes near the margin. The reproduced photograph is of a flower that was originally described as C. Harrisoniana alba, Stanley's var., but the absence of the characteristic bright yellow corrugated disc shows that it is the true C. Loddigesii. It was awarded a First-class Certificate at the meeting of the Royal Horticultural Society, September 15th, 1908.

HYBRIDS OF CATTLEYA LODDIGESII ALBA.

However much we may admire the large flowers of Cattleya Mossiæ there is always a weak point seen in the drooping habit of the petals. In a slightly less degree the petals of C. Mendelii, labiata and Trianæ have the same character. In order to remedy this defect, hybridists have utilised some of the long-bulbed species, especially C. bicolor, intermedia and Loddigesii. The first of these, in conjunction with C. aurea, has yielded the well-known C. Iris section of hybrids; the second has produced such useful hybrids as Dusseldorfei (intermedia × Mossiæ); and the third has given us many beautiful plants, of which C. Armstrongiæ (Loddigesii × Hardyana) is a typical example. In all these hybrids, and others of their class, the flowers are much improved in their general texture, and more especially in the upstanding nature of the petals. In size they are about intermediate, but it is hoped that with further crossings some enlargement may take place without in any way losing the stiffening character imparted to them by the long-bulb parents.

We may now pass on from the coloured flowers to the albino section, for much work has recently been done to create a large pure-white flower of thick texture. C. intermedia and Loddigesii have both proved useful in this respect; the former has given us the beautiful C. Dusseldorfei Undine, with pure-white flowers, and the latter a series of albinos to which frequent additions are being made.

C. Astron (Dusseldorfei Undine × Loddigesii alba) flowered in the collection of Baron Bruno Schröder in 1914, when it received an R.H.S. Award of Merit. A finer form of this hybrid, distinguished as The Dell variety, flowered in the same collection three years later, and received a First-Class Certificate when exhibited at the Royal Horticultural Society on November 6th, 1917. A reproduced photograph appeared in the *Orchid Review*, vol. xxv, p. 256.. In due time this result gave rise to C. Salara (labiata alba × Astron), flowered in 1922 by Messrs. Cowan, and, two years later, to C. John Henry (Astron × Lady Rowena), the latter in the collection of Baron Bruno Schröder.

Reference must be made to C. O'Brieniana alba, a natural hybrid between Loddigesii and dolosa, and for some time known only in the coloured state. The finding of this natural hybrid in the albino condition provided a valuable parent, and many fine results subsequently appeared. One of the earliest was C. Ashtoniæ, obtained by crossing O'Brieniana alba with Dusseldorfei Undine; it was raised by Messrs. Armstrong & Brown, and first flowered in 1915. During the following year the same firm flowered C. Saturn (O'Brieniana alba × Gaskelliana alba), and C. Clæsiana alba (intermedia alba × Loddigesii alba), the latter of historic interest as it represented the pure-white variety of a natural hybrid known before 1894, in which year Mr. Joseph Chamberlain sent flowers of it to Kew.

In 1917 Messrs. Armstrong & Brown recorded C. Albion, the result of crossing O'Brieniana alba with Suzanne Hye (Gaskelliana × Mossiæ), the combination of white varieties of all the species concerned making a very pretty flower. These successes were followed in 1918 by Messrs. Cypher & Sons recording C. Snowdrop (O'Brieniana alba × intertexta), a white form of the second parent being used. In 1924 C. Vesta was flowered by Messrs. Cowan & Co., the parents being Snowdrop and Lady Veitch.

Other noteworthy results have appeared in C. Mont Blanc (labiata alba × O'Brieniana alba), exhibited in 1920 by Messrs. Stuart Low & Co.; in C. White Lady (O'Brieniana alba × Percivaliana alba), recorded by Messrs. Sanders in 1922; in C. Snowcap (Clæsiana alba × Saturn), flowered in 1922 by Messrs. Armstrong & Brown, who in 1924 recorded C. Astromary (Astron × Queen Mary), the latter parent being a hybrid between Mendelii alba and Warneri alba.

From the above detailed results it will be seen that considerable forethought has been given to the production of a large flower, thick in texture, and pure-white. The steps already taken promise well, and in time, slow but sure, the much-desired object will be obtained.

THE COLLECTING OF ORCHID SPECIES.

WHENEVER a locality is visited for the first time by an Orchid collector, the number of available plants is usually sufficient for his immediate requirements. It is the best specimens that are secured and sent home for cultivation. If the time of year corresponds with the flowering season the collector has considerable opportunities for selecting varieties of outstanding merit, and any such plants are accordingly secured, even if of small dimensions. Further visits to the same locality, with similar requirements on the part of the collector, reduce the supply of fine plants, and also the quality of the type. Ultimately, the district becomes unprofitable to work, and the few plants that remain are those which were discarded on account of their poor varietal nature or diminutive size. These poor representatives are thus left alone to replenish the locality with an inferior form of the species concerned.

The above is one reason why many importations of later days rarely contained such fine forms as were seen in the original collectings. After a period of five or six years, collectors have re-visited some of the identical places from which notable varieties were obtained, only to find that the newly-grown plants consisted almost entirely of valueless forms. Collectors who sent home plants as having been gathered in the exact localities were noted varieties were previously found, have been somewhat unduly criticised for making erroneous statements, and more especially so at the time when the imported plants reached the flowering stage under artificial conditions. The precise point upon which information should be supplied is the extent to which the locality in question has been previously worked upon by collectors.

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AMESIA LATIFOLIA IN CANADA.

By HENRY MOUSLEY.

AS is generally known, most inhabitants of the underworld have many aliases, hardly ever appearing under the same name, but this, of course, is of their own choosing, whereas, in the floral world, all kinds of strange names are forced upon our lovely wild flowers, whether they like it or not, and this is true of the species in question. Usually known in the vulgar tongue as the broad-leaved Epipactis, in scientific jargon it has received such names as Serapias Helleborine, L., Epipactis latifolia, All., E. viridiflora, Rchb., and so forth, until at last it appears in the very latest book on Orchids out here as Amesia latifolia (Hudson), A. Nelson and Macbride, in *Botanical Gazette*, vol. lvi., p. 472 (1913), which name, henceforth, I trust, may be the one it will hold in perpetuity. It is an interesting species, probably well-known to many English and European collectors, who will, no doubt, be glad to have some account of its status in Canada, and it is for them that I have prepared these few notes.

I can well remember the day, and that not so very long ago, when I received my first dried example from a collector in the United States, with the remark that I ought to think myself very lucky to get an example at all of this rare Orchid, from which remark I gathered that it was by no means common south of our border, where, so far as I know, it is only taken in New York State and Pensylvania. Of its status in Canada I knew very little until this fall (1924), except that there were only two known stations for it, Toronto and Montreal, in the former of which I have read that it was very uncommon, being confined to two localities only. At Montreal, where I have taken up my residence for the winter months, if not permanently, I have had a pleasant surprise, finding the species growing all over Mount Royal somewhat like a weed. I think the following extract from a paper by Brother M. Victorin in the *Canadian Field Naturalist*, vol. xxxiii., 1919, No. 6, p. 116, entitled "Random Botanical Notes, Isle-aux-Coudres, Que." will give as good an idea as any of how the species came to be found in Canada :—

"Close observers have already remarked that the older settlements in Quebec exhibit unusual floristic features which should be attributed to historical factors. The first settlers, the missionaries, the 'Médecins du Roi,' the nuns, were far from being 'minus habens,' and the gardens inside the palisade usually contained the best drug plants in favour at the time. When cultivation happened to cease on that particular spot, the plants had very often gained a strong foothold and were able to persist for centuries. A striking example of this is the abundance and persistance to date of Serapias Helleborine, L., on Mount Royal, Montreal Island, the only instance of an introduced Orchidaceous plant that I know of."

It was Bro. M. Victorin who first took me, on October 3rd, 1924, to a spot on the north-east end of the mountain, where several plants were located in fruit, the capsules, however, for the most part having dehisced. Two days later, near this same spot, I had no difficulty in counting 124 plants in quite a small area, and, three week later, on October 28th, on the north-west end of the mountain I counted over 150 plants in a still smaller area, whilst on November 1st I found my tallest plant, 89 cm. in height. In Gray's *Manual*, 7th ed., I find the height given as 25-60 cm., which will certainly require adjusting in any future edition. I found many plants well over 60 cm., the fine one above mentioned having a raceme 26.5 cm., with 77 dehisced capsules. Another plant, 84 cm. high, had the same length raceme as the last, but only 46 capsules, whilst another smaller plant actually had 54 capsules on a raceme only 15 cm. long! The plants were seldom, I fancy only once, found out in the open, almost always being under the shade of trees, and very often in quite stony ground.

Building is going on all over the mountain, some spots on which I found nice little thriving colonies being marked out as building lots, no extra price being asked for these from the fact of this interesting, extraordinary, but sober-coloured Orchid growing thereon. Few purchasers of these lots, however, would know an Orchid if they saw one, and still less would they give an extra price, or even take the trouble to have them preserved during building operations, and so in time, no doubt, the species will become less plentiful on the mountain.

It is hoped at some future time next year, when the plants are in bloom, to give a detailed description of the gynostemium, or column, variation, if any, in the colour of the flowers, as well as in the shape of the leaves, etc. In the meantime, it would be interesting to hear from other collectors, giving an account of their experiences with the species in England and Europe, so that we out here may be able to draw comparisons.

ORCHIDS AT HACKENSACK, NEW JERSEY, U.S.A.

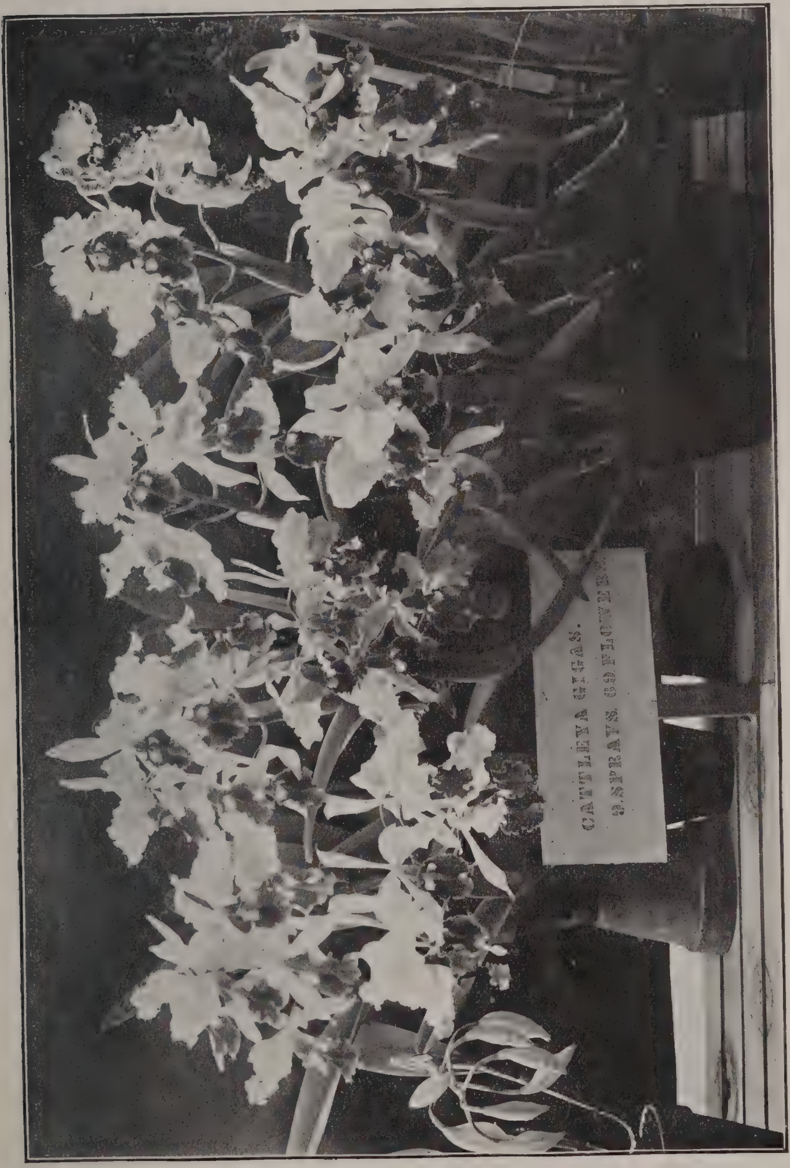
ONE of the most interesting and best known of Orchid collections is that formed and developed by Clement Moore, Esq., at Hackensack, New Jersey, U.S.A. Mr. Moore has maintained unabated interest in Orchids for over thirty years, and has followed closely the inevitable rise of hybrids to supremacy, having himself contributed important work to this end. It is a stimulating experience to "talk Orchids" with him, he is so genuinely full of the past and present, and so appreciative of progress.

When first beginning his collection, Mr. Moore purchased considerable numbers of Orchids newly arrived from the woods, species then being imported into the States, as into England, in large quantities, and he early learned to recognise the finer varieties. Armed with this knowledge, and with a view to obtaining the best, he made frequent visits to the nurseries that were flowering the species in great quantities for the cut-flower market; and in this way he had exceptional opportunities of steadily accumulating a valuable collection. How good his judgment was may be gleaned from the fact that a great many duplicates from these eventually found their way into our English collections, and are highly prized at the present time. As illustrative of this, mention may be made of two: Cattleya Schrœderæ var. The Baron and C. Trianæ Mooreana.

This early recognition and acquisition of the best procurable species placed Mr. Moore in good stead when he commenced hybridising, for he had rich material at hand to use, and, when success came in raising, his various strains of the primary hybrids were of a high order. Most of the Cattleya species were crossed with C. aurea, and superior quality was the note found in such fine old hybrids as C. Hardyana, Empress Frederick, Fabia and Maggie Raphael; how could it have been otherwise? While we have left these primaries far behind in endless instances in our later secondary, tertiary, or even more complex combinations, we have to confess that it has too often been the individual to which we have been able to point as the advance, and not the batch, or, shall we say, the litter. In the old primaries we had a considerable consistency of a low or high standard according to the parents used, and Mr. Moore deservedly scored here because of his foresight.

Mr. Moore has raised some 300 crosses during these long years, but he has many of them still to flower, for, needless to say, he is still crossing and raising. A good augury in this respect is the fact that the collection has been for the last three years in the very capable hands of Mr. E. J. Hannington, whose earliest training was in the production of large quantities of Orchids from seed, and who has now arrived at the age when most of us succumb to the lure of the Orchid. Firstly, of course, the knack of obtaining a germination must be acquired, but patience and a trained aptitude—shall we call it a trained instinct?—are called on to grow the seedlings uninterruptedly to the productive stage. Mr. Hannington's success will seemingly only be checked for want of room.

It is not possible, nor desirous, to make a catalogue of a collection of this kind. Suffice it to say that most of the best of the modern hybrids are here represented. Yellow hybrids are a great attraction to Mr. Moore, and the following are worthy of mention in the B. Digbyana section:



CATTLEYA WARSCEWICZII (GIGAS) FLOWERING IN THE COLLECTION OF CLEMENT MOORE, ESQ., HACKENSACK, N.J., U.S.A. NINE SPIKES ARE SHOWN WITH A TOTAL OF 69 FLOWERS.

Brassolæliocattleya Joiceyi, Blc. The Baroness, Blc. Thyone, also a hybrid between Bc. Mrs. J. Leemann and Lc. Firminii, and others between Lc. Firminii and Blc. The Baroness, and between C. aurea and Blc. The Baroness. A pretty buff-coloured flower of good shape is the home-raised Blc. Jessie Moore, while Blc. Eileen Low is a distinct addition to this wonderful trigeneric section.

At the time of my visit, a very fine Brassocattleya Rosita was just opening, and, among others, Bc. Dr. G. MacDonald and Bc. Olympus. A strong plant with two sheathing leads was of interest as having been awarded a Gold Medal at New York last March. This is a very exceptional variety, large, full and pure-white. Good specimens were also noted of Bc. Dietrichiana var. Firmin Lambeau, Bc. Alderman, Bc. Cliftonii magnifica, Bc. Yvonne (Bc. Cliftonii × C. Fabia), Bc. Patricia, Bc. The Globe (Bc. Cliftonii × Trianæ), Bc. Massangeana, and many others worthy of mention.

When the traditions of a collection go back over thirty years one may fear a tendency for the memory to magnify the wonders of the past, but the above list shows that this is not so with Mr. Moore. He keeps adding specimens of the latest and best hybrids as they appeal to him, and keeps closely in touch with what is best in the Orchid world.

Mr. Moore has good home-raised strains of Bc. Ilene, Bc. Mrs. J. Leemann, Blc. Truffautiana, Blc. Orceola, an Indian name for a hybrid between Bl. Digbyano-purpurata × C. Trianæ, etc. A new Cattleya just beginning to flower is C. Katadin (Empress Frederick × Lueddemanniana), among which are good things of rich colour, and this hybrid should be useful for early autumn flowering in a country where Cattleya flowers have a substantial value. A pretty white Læliocattleya that should be recorded is Phœbe Snow (C. Lueddemanniana × Lc. Cappei alba), and mention may also be made of the new yellow Læliocattleya Ruth Erbe (C. Alfred Dimmock × Lc. Aureole), which was flowering in several specimens; this has yellow sepals and an exceedingly dark lip.

Cattleyas flower freely and generously in America, and, apart from labiata, many fine forms of Fabia, Ballantineana (made from Trianæ var. Edgar Knight), Enid, Lc. luminosa, etc., were in bloom; even an odd C. Trianæ was already open at the end of October. There is a small collection of about a hundred Odontiodas, chiefly primary hybrids. Afrer experimenting for a year or more there is good hope that this section can be grown in New Jersey with successful results.

Mr. Hannington is assisted by an enthusiastic young Orchid grower in Mr. Colin Shill, son of Mr. J. E. Shill, the eminent Orchid grower to Baron Schröder, and a noticeable and pleasurable feature of this place is the extremely happy relations existing all round, the true Orchid atmosphere of success.

J. M. BLACK.

ORCHIDS AT CHELTENHAM.

THE history of the firm of Messrs. Cypher & Sons goes back to 1860, in which year the late Mr. James Cypher commenced growing Orchids at Cheltenham. The high reputation earned through this long period is being maintained by Mr. J. J. Cypher, nephew of the founder, and by Mr. Frank Cypher.

Among the first Orchids cultivated were many representatives of the Dendrobium genus, including D. nobile elegans and D. n. pulcherrimum, both very valuable at that time. Some of the earliest plants of D. Parishii, first sent to England in 1863, were cultivated by this firm. They were fine specimens of their kind, and had bulbs measuring over two feet in length. Considerable success was obtained with D. Bensoniæ, always considered a difficult subject. At one time a large span-roof house was filled with D. Phalænopsis Schrœderianum, and as evidence of their vigorous condition it may be stated that one bulb bore three spikes with a total of 66 flowers. One of the first pure-white varieties of this species flowered here.

Dendrobium hybrids were subsequently cultivated, and it is worthy of note that Messrs. Cypher acquired some of the earliest plants of D. Ainsworthii, which first flowered in 1874, and grew them on into handsome specimens. It is an interesting fact that this firm introduced the method of growing Orchids in shallow pans, with holes in the side, Dendrobiums, more than any other genera, being so treated.

Cypripediums were next given attention, followed by Lælias and Cattleyas. At one time Lælia purpurata occupied two large houses, and many noted varieties of this fine old species were distributed. Some of the specimens were grand plants, one unusually fine example bore no less than sixteen spikes, each with four or five flowers. Large orders came for this species. On one occasion Messrs. Veitch purchased a batch carrying over 200 flower sheaths. Cattleya Mendelii and C. Mossiæ were also imported in large quantities. Of the latter, one of the best specimens produced 90 flowers simultaneously. C. labiata was then a very scarce plant, but years later became plentiful. The consignments of the later period consisted of plants which differed in having a double sheath.

Cypripedium Leeanum giganteum when still a rarity was grown on into a specimen which bore 58 flowers, when it was sold to Mr. Thompson, of Walton Grange, Stone. Another Cypripedium that for many years enjoyed considerable reputation was C. Beckmanii. It was originally sold by M. Linden to Mr. Thompson, and then passed into the hands of Messrs. Cypher by whom it was distributed to the collections of Mr. G. F. Moore and Mrs. Briggs Bury. For a long period this well-known Cypripedium remained only in these two collections.

The present stock of Orchids now fills twenty large houses. Cypripediums have always been one of the specialities of this establishment. Six houses are entirely devoted to their cultivation. Although the species are not grown so numerously as in the past, they are still fairly well represented. Of the well-known C. insigne more than twenty varieties are grown, including many specimens of insigne Sanderæ, and also a small number of insigne Sanderianum, which does not possess so robust a constitution. C. villosum is best represented by the variety aureum, the flowers of which last three months in perfection. Another favourite is C. Fairrieanum, also to be seen in quantity. One of the prettiest of its hybrids exists in Niobe, and another in Arthurianum.

It is the winter season which sees Cypripediums at their best. At Christmas time there are generally 4,000 flowers open, and some 2,000 of these are cut for decorative purposes. Hundreds of different kinds are here cultivated, ranging in colour from light primrose-yellow to dark purple-brown. In fact, there are enough to satisfy the most fastidious of amateurs, no matter what their particular requirements may be. There are many fine specimens, and large numbers of small propagated plants that will flower during the next season. C. Actæus is represented by over a dozen varieties, and the popular C. Leeanum by some 25 different forms. It is impossible to give a complete list of the multitude of different Cypripediums cultivated by Messrs. Cypher, but almost all of the noted varieties are included. Several of the best originated in the Westonbirt collection. Mention may be made of C. Actæus var. Bianca, C. Goliath, raised by Mr. G. F. Moore, and the Shrubbery variety of C. Elatior.

On entering the largest of the warm houses, one's attention is immediately attracted to the numerous Bulbophyllums and Cirrhopetalums, mostly growing in shallow pans suspended from the roof. Of the former, B. barbigerum is the chief favourite, and of the latter, C. Medusæ, with its curious shaggy-head-like cluster of flowers. Of the genus Angræcum there are fine plants of eburneum and sesquipedale, always ornamental, as well as the much smaller A. distichum. Three vigorous specimens of Vanda Batemanii carry one back to the days when these plants were highly prized. There are not many gardens in which the genus Stanhopea receives attention, hence the several representatives here grown are worthy of notice. They include S. tigrina, Wardii, eburnea and bucephalus.

In another house, filled with a great variety of Orchids, there are many examples of Epiphronitis Veitchii, generally in flower during the spring time, but a few of its scarlet-red flowers are generally open during each month of the year. A plant now somewhat rare is here to be seen in Rodriguezia secunda, the roots of which hang down to a length of about two feet below the pan. Calanthes are another section here cultivated with more than usual success, as may be seen in the photograph reproduced in the *Orchid World*, vol. iii., p. 109. Epidendrum gattonense, with its tall reed-like stems, produces clusters of flowers which continue in perfection for twelve months. It is regarded as the best of its kind. Closely related plants exist in E. radicans and E. xanthinum, the latter now very scarce.

Mexican Lælias are chiefly represented by L. anceps, which is grown on a large scale, more especially as regards the white flowering varieties which last in perfection a much longer period than the coloured forms. Another plant that comes in handy for cut-flower purposes is Cœlogyne cristata, also cultivated in quantity. At the time of making these notes there was a batch of C. barbata in flower, and several vigorous plants of C. Dayana were also noticed. Brassavola Digbyana is to be seen in dozens of healthy plants, the flowers of which are still in demand for hybridising purposes. Sobralias also receive attention, for there is usually a good demand for the pure-white and yellow varieties. Another reed-like plant is cultivated in Neobenthamia gracilis, always a favourite on account of its floriferous nature.

In another house can be seen large batches of Cypripedium Maudiæ, Lawrenceanum Hyeanum, and other popular kinds, also Oncidium Papilio, which fortunately is not so difficult to procure as O. Kramerianum. Other representatives of the genus Cœlogyne are grown in corrugata, a healthy lot of plants, also Sanderæ, and the pretty intermedia (cristata × Massangeana), raised by Messrs. Cypher, and first flowered in 1913. There is a batch of Epidendrum radiatum, as well as of E. prismatocarpum, and many plants of the attractive E. vitellinum, with orange-red flowers. Diacrium bicornutum is cultivated successfully, and is now a rarity.

Cattleyas occupy considerable space, species and hybrids being well represented. Although there is always a demand for distinct varieties of C. Mendelii and C. Trianæ, of which many choice examples are here grown, it is the numerous hybrids that meet with so much appreciation by amateurs. Messrs. Cypher & Sons grow immense quantities of all the popular kinds, and during every month of the year some of the various sections come into flower. There are pure-white flowers varying in size from those of C. Loddigesii to the larger ones of C. Mossiæ, while the white-flowering hybrids are much more numerous. Coloured flowers are now of much finer form than previously seen, and this is due in a large measure to skilful hybridisation. Læliocattleyas fill one of the largest houses in this establishment, and include a wide selection of all the best kinds and varieties. Mention may be made of Lc. callistoglossa, eximia, Fascinator, luminosa, Martinetti and Schrœderæ. During recent months a fine display has been made by well flowered examples of Lc. Golden Wings, of golden tints, Faustina, apricot-yellow, except for the crimson labellum, Britannia alba, with pure-white sepals and petals, and luminosa aurea. Among the Lælias are a vigorous plant of superbiens, with a very tall spike, and Boothiana, with its characteristic spotted leaves. Another noteworthy specimen is Læliocattleya Tenos (C. Bowringiana × Lc. Nysa), which recently bore seven spikes and a total of 84 flowers.

Brassocattleyas are always attractive when well cultivated, and here may be seen excellent examples of Bc. Digbyano-Mossiæ, one of which produced no less than six spikes of bloom. Another pleasing hybrid is Bc. Ilene, with large flowers of rosy-mauve colour, and still another in Bc. Digbyano-Warneri, which is one of the darkest of the primary hybrids of B. Digbyana. A pretty hybrid is cultivated in Spathoglottis Kewensis (plicata × Veillardii), and a rarity in Maxillaria lepidota.

In one of the warmest houses are grown many of the Vanda species, including teres and Miss Joaquim, also Aërides in variety, and a vast array of the smaller-flowering species that are generally classed as botanical. The Masdevallia house contains a wide selection of these interesting plants, mostly species, but almost all yielding flowers of a pretty nature. Many hundreds of plants are grown, and no matter at what time of the year a visit is made, there are usually some in flower.

Odontoglossums, both species and hybrids, cover a large area of staging, and will very soon be producing their attractive flowers once again. Odontiodas in all shades of scarlet and red make a most useful addition to the cool-growing section, and they seem to grow here with considerable freedom. Anguloas, Lycastes, and a most varied selection of other Orchids suitable to amateurs are included in this vast collection, and all receive careful cultural treatment, so that groups of flowering Orchids are exhibited by Messrs. Cypher & Sons in all parts of England and during every season of the year.

Mr. John James Cypher was elected a member of the Royal Horticultural Society's Orchid Committee in 1908, and three years later the Victoria Medal of Honour was conferred upon him.

As one of the founders of the Manchester Orchid Society, he has taken a keen interest in the Society's welfare, and has been a member of the Committee from its earliest days.

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Orchis hircina.—Mr. F. W. Smith, Château des Dunes, Cannes, records in the *Gardeners' Chronicle*, November 29th, 1924, the finding of Orchis hircina in considerable quantities in some of the Maritime Alps, growing in heavy, calcareous soil. A previous year's spike measured twenty-one inches in length. Mr. Smith remarks that he has vivid recollections of coming upon a veritable garden of about two hundred plants of O. hircina in full flower, nearly thirty years ago.

CULTURAL NOTES.

TEMPERATURES.—EAST INDIAN HOUSE.—Day, 65° to 70°; night, 60° to 65°.

CATTLEYA HOUSE.—Day, 60° to 65°; night, 55° to 60°.

INTERMEDIATE HOUSE.—Day, 55° to 60°; night, 50° to 55°.

COOL HOUSE.—Day, 50° to 55°; night, 48° to 50°.

These are the temperatures which one should endeavour to keep during sunless weather, *i.e.*, by the use of the heating apparatus only, and the lowest temperatures should be registered in the morning. They will rise considerably with solar heat, and during very cold weather a drop of a few degrees will do no harm, as it is better to keep the temperatures uniformly lower than to have the pipes at a very fierce heat for days together. In the event of their dropping by any accident very much lower than those advised, every effort should be made to get them up as quickly as possible, as it is when the houses remain cold for a long time that harm ensues. Particular care should be taken not to let the temperatures down after a heavy watering; it is better to keep them a little higher when watering has been done to much extent.

DAMPING AND VENTILATION.—In the hot houses, where a large amount of fire heat will, of necessity, be used, damping down will have to be done to a good extent, but very much will depend upon the structure of the house, and the manner in which the damping down is performed. It is advisable to have a hosepipe fixed in each house, which makes damping an easy matter, and, at the same time, ensures its being thoroughly done. Some houses will smell fiery, while others with a much higher temperature will be beautiful and mellow. If a house is well provided with moisture-holding material, such as coke or sand on the lower staging, with vegetation of some kind or another on the floor, and a good supply of piping, a high temperature can be secured, which will be of a healthy order. We find damping once a day during the winter sufficient in our houses, excepting during periods of hard frost. It may not be found necessary to damp the Odontoglossum house even once a day, as there is less artificial heat to lift the moisture, but as air should be admitted here on all possible occasions, there is not much danger from excess of moisture in this house. The thing to avoid here is stagnation rather than too much moisture. The inmates of this house love a moist, buoyant and cool atmosphere, and when the Odontoglossums are not throwing up spikes they will be more or less in active growth, and will grow more during the next three or four months than at any time during the year. Air should be admitted to all the houses, both night and day, by the bottom ventilators, when the weather is at all favourable, taking care to avoid cold currents when windy by closing them on the windward side. On specially fine days, when the wind is in the south or west, the Cattleya and Intermediate houses will benefit by having a little top ventilation as well—if only for an hour.—*J. M. Black, January*, 1906.

WARM OR EAST INDIAN HOUSE.—The Vandas, Aërides and such like plants require little moisture other than that afforded by damping down, for it is preferable to damp between the receptacles than to water the plants to keep the moss alive. Angræcums require more water as they are now rooting, and in some instances sending out their flower spikes. Phalænopsis, which require the heat and other conditions of this house, are really better managed when occupying a house to themselves, they are now making a fine display, such species as P. amabilis, grandiflora, Schilleriana, Stuartiana, and the natural hybrids leucorrhoda and casta are at their best. A genial moist atmosphere, must be maintained, as much less water need be given to the plant direct when it is present in the air. It is remarkable how dry some of these plants may be kept without injury, the roots keeping much longer when treated so. The beautiful Eulophiella Elizabethæ has nearly completed growth, and if kept rather drier at the root now, will help the plant to send up its flower spikes.—*J. Mackay, January*, 1904.

RE-POTTING.—Although the season is yet young, and but little re-potting will be required for another month or two, yet a few remarks may not be out of place. With Orchids, as with other plants, it is a most important operation, and it leaves its mark either for better or worse. With the inexperienced and careless it has too often, I fear, the last named result, but there is absolutely no reason why it should be so, or why anything should happen more than a slight check, which in most cases should be practically unnoticeable. I most sincerely condemn the pernicious practice of overhauling a house, whether it be of Cattleyas, Odontoglossums, or any others, and re-potting everything therein that may look to demand it, quite regardless of whether they are at a fit and proper stage of growth to be re-potted. For instance, one plant may have just commenced growth, another may have it half completed, whilst a third may be at rest. For the first it would be all right; it would quickly recover, and grow the better. In the second case a great injury undoubtedly would result; the half-finished growth would be crippled to such an extent that if further progress was not entirely arrested it would make a pseudo-bulb far beneath the average size. Whilst in the third instance the tendency would only be to weaken. Make it a practice to re-pot each plant at the proper time only, which is just prior to the new roots and new growths appearing. The plants will not only be the better for it, but it distributes the work, and prevents undue pressure at any particular time. Although so early in the year, a good many Odontoglossum crispums and others in the same house are in a fit condition to pot. So might be a few of the early Cattleyas, such as C. Trianæ, for if these are handled with great care they may be done with even better results before blooming than after; but whether to do them before or after blooming must be left pretty much to the discretion of the cultivator, for he alone can see in what stage the new roots and growths are, and how far advanced they are likely to get before the flowering period is over. There is a great difference in varieties in this respect, some making great headway before blooming and some scarcely any. The same may be urged respecting Dendrobiums, and indeed most other genera. If re-potting is done just prior to the starting of the roots, and done well and carefully, no damage can possibly accrue, even though the plant has still to flower. Generally, however, I do not recommend re-potting until after flowering, though in many an instance it may be done by one who follows the growth of his plants closely.—*H. A. Burberry, January*, 1900.

Sophronitis grandiflora.—Another most popular and showy species is Sophronitis grandiflora, which I always like to see in bloom by January, even if a little extra warmth has to be given during the autumn; otherwise, the season of its growth is retarded, a matter which is best avoided if possible. After the blooms are over, it will remain inactive for some few weeks before it recommences to grow, during which time it should be kept pretty dry at the root. No great delay, however, will take place before new roots and the new breaks are seen to make their appearance, at which time all the re-potting considered necessary should be done. The less delay the better after that period. This, also, is best grown in small baskets and pans, and suspended, and when so grown and carefully watered should require root disturbance only at intervals of several years or when they have actually outgrown their receptacles.—*H. A. Burberry, January*, 1989.

BRISTOL SHOW.

THE Fifty-fourth Annual Exhibition of the Bristol Horticultural and Chrysanthemum Society was held in the Drill Hall, Bristol, on November 12th and 13th. Although Chrysanthemums filled the principal positions, other plants, flowers and fruit were well in evidence, and the Drill Hall was packed with exhibits of real merit.

Orchids have been, and are, a strong feature at this Show. Twelve distinct classes are scheduled, varying from a single plant to a group arranged on a table space, 6ft. by 4ft., ferns and foliage being allowed, so that all amateurs have facilities for competing. Very pretty effects are obtained even in the small space mentioned.

This particular class is open to all at the Bristol Show, and appears to be a feature which might, with advantage, be introduced into other Flower Shows. The First Prize was awarded to W. Melville Wills, Esq. (gr. Mr.

Chapman), for a meritorious exhibit of well-grown plants, skillfully arranged, consisting of Cypripedium insigne Sanderæ, C.i. Harefield Hall, C. Mr. F. Sander, Oncidium varicosum Rogersii, Cattleyas and Læliocattleyas.

The Second Prize was awarded to E. W. Bryant, Esq. (gr. Mr. Cane), for a varied group in which the pure-white form of Dendrobium Phalænopsis Schrœderianum contrasted with some good varieties of the type. Brassocattleya Maroniris, Cypripedium St. Alban, C. Dreadnought, Cattleya Peetersii alba, Odontiodas and Odontoglossums were also used. Mrs. L. P. Nott (gr. Mr. Thoday), came Third with a group in which Cattleya labiata predominated, intersperced with Calanthe Veitchii, Oncidium flexuosum, Cymbidium Tracyanum, and a specimen of Epidendrum ciliare carrying five spikes.

For three distinct Orchids in bloom, Sir William Howell Davies (gr. Mr. Curtis), was awarded First Prize, his plants being Cattleya Bowringiana, Dendrobium Phalænopsis and Cypripedium Mons. de Curte. W. J. Wilkins, Esq., was placed Second with Odontoglossum crispum, Cattleya labiata and a Cypripedium hybrid.

For two Orchids in bloom, Sir G. A. Wills (gr. Mr. Grieve) was First with Cypripedium insigne Sanderæ and a variety of Cattleya Sybil. Sir Wm. H. Davies came Second with Cypripedium insigne Sanderæ and C. Zeno.

In the class for a single specimen, W. Melville Wills, Esq., secured First with a specimen Cypripedium Leeanum var. Staffordianum, in robust health and bearing five flowers. Mr. R. H. Jennings came Second with Cymbidium Tracyanum carrying four rather short spikes.

For a single specimen Cypripedium, W. Melville Wills, Esq., staged a well-grown plant of C. insigne Sanderæ with eleven flowers.

The class for three distinct Cypripediums brought five entries. W. Melville Wills, Esq., came First with another plant of C. insigne Sanderæ bearing eleven flowers, a form of C. Leeanum with thirteen flowers, and C. Leeanum var. Staffordianum with five flowers. E. W. Bryant, Esq., was placed Second for Cypripedium Dreadnought, with four flowers, C. Goliath, with two, and a hybrid of C. Charlesworthii with four flowers. R. H. Jennings, Esq., came Third with C. Leeanum superbum carrying six flowers, C. Troilus with three, and a form of C. Sallieri with five flowers and buds.

For three Cattleyas the only exhibitor was W. Melville Wills, Esq., who staged a good plant each of C. Mantinii, C. Fabia, and Læliocattleya Cornelius.

For three Oncidiums there was but one entry, W. J. Wilkins, Esq., showing Oncidium Forbesii, O. varicosum Rogersii, and C. tigrinum.

The First Prize for any three Orchids in bloom was won by J. F.

Phipps, Esq., who exhibited Cypripedium insigne Sanderæ with five flowers, C. Hitchinsiæ, and C. Dreadnought. W. J. Wilkins came second with a well-flowered example of the now scarce Oncidium unguiculatum, Cypripedium beechense, and Odontoglossum Thompsonianum. J. Brown, Esq., was awarded Third Prize for three Cypripediums.

The class for six Cypripediums usually brings strong competition, but on this occasion both this and the following classes were not strongly competed in as regards the number of entries. W. J. Wilkins Esq. (First Prize) staged some fine forms, including Gaston Bultel, Germaine Opoix, insigne Sanderæ, Lucifer, etc. Dr. H. Morton Evans (Second Prize), showed Thalia, Mrs. F. Wellesley, Troilus, Leeanum giganteum, Actæus, nitens, and a form of Galatea. J. F. Phipps, Esq., and E. T. Parker, Esq. also exhibited.

For a specimen Orchid, W. J. Wilkins, Esq., staged a well-flowered specimen of Cattleya Portia with 21 flowers on three spikes. Mr. Phipps came second with a seven-flowered Cypripedium insigne Sanderæ.

The last of the Orchid Classes—Six Orchids, any variety, arranged with ferns, etc., space not exceeding 4ft. by 3ft., allowed W. J. Wilkins, Esq., to be placed First, with Læliocattleya de Brasseur Hye, Odontoglossum amabile, Odontioda Bradshawiæ, and Oncidium prætextum, etc. The Second Prize went to Dr. J. Morton Evans, who staged Cattleya Portia, Epidendrum vitellinum, various Cypripediums, etc. J. F. Phipps, Esq., also entered.

Trade exhibits came from Messrs. Cypher & Sons, who had an extensive group of Cypripediums, the best being Elatior, Ballet Girl, Bianca and Shogun. Also Brassocattleyas and Maxillaria lepidota: Gold Medal.

Messrs. A. J. Keeling & Sons staged a varied collection, noteworthy plants being Brassolæliocattleya British Queen, Cattleya Octave Doin, Læliocattleya Schrœderæ, Cœlogyne Mooreana and various Cypripediums: Gold Medal.

Messrs. Sanders displayed a varied group backed with Oncidium varicosum Rogersii, the bright-yellow of which contrasted well with a fine form and specimen of Cymbidium gattonense var. umbrosum, and the numerous Cattleyas and Cypripediums. Prominent plants were Brassocattleya Crofutiana magnifica, Bc. Minerva, Læliocattleya Ivanhoe, and Cattleya Sylvia. Among the Cypripediums were Goliath, Swallowtail, Troilus, Maudiæ, and St. Albans var. The Queen, the latter a beautiful yellow form.

Altogether Orchids were well represented. If one kind may be said to have been more largely used in the Show than any other it was Cypripedium insigne Sanderæ. E.C.

ORCHIDS AT STAMPERLAND, GLASGOW.

ABOUT the middle of November, I had the very real pleasure of spending an hour or two in the above collection with the genial owner, Robert Paterson, Esq. Mr. Paterson has been growing Orchids for some twelve years, but up to recent years his collection was composed of such things as Cœlogynes, Masdevallias, Calanthes, Aërides, Vandas, and also many Orchids botanically interesting but with little floral worth. Much of the old collection remains, but it has become secondary to the Cypripediums, Cattleyas, Læliocattleyas, Brassocattleyas, Odontoglossums and Cymbidiums with which the houses are now mostly filled.

It is always interesting to know how a collection has been formed, and as Mr. Paterson went about the job very thoroughly and methodically, I wish to say a word or two about it.

Mr. Paterson first of all dispelled from his mind any notion that he knew anything at all about Orchid growing, and Mr. Merry, his able gardener, was equally modest in his pretensions, and it was in this condition of mind that Mr. Paterson set out on a tour of inspection, visiting both private and trade collections. He gathered as he went all the information on culture that was possible, and this from the actual growers ; and all the hints collected were passed on to Mr. Merry. Very few growers grow every Orchid, or every Orchid section, to the height of its possibilities, whatever we may say about it, and when a man is found who is able to grow a particular section up to it's full glory, his advice is worth listening to. To talk glibly of Orchids is a different thing to growing them, though this is a disagreeable thing to say. One may attend exhibitions for a lifetime and be no further forward culturally than on the first visit, and, make no mistake, it is in good growing that the nurseryman finds his profit and his friends, and the amateur his pleasure and peace of mind ; or, inversely, the wreckage of his hopes. To realise this early is half the battle. A curious reluctance to make frequent visits to collections that are worth visiting is all too common among amateurs, and they do not know how much their own collections are losing by this shrinking into themselves. Mr. Paterson's " voyage of discovery " began with his "modern" collection, and he is unlikely ever to have any illusions as to where he stands culturally or otherwise, for that voyage is likely to be repeated, if it has ever been discontinued.

My visit coincided with a Glasow fog which had reached as far out as Stamperland and had been playing havoc with the flowers and buds of the Cattleya section. This was a pity, as the plants had been well-grown and matured, and a big slice is cut off the year's harvest when the autumn flowers of this section are ruined, and as this calamity has been experienced before it seems like restricting the collection in this group to the spring and summer flowering kinds. The plants themselves give every evidence of being well cared for, the youngest bulbs and leaves being free from thrip marks, the potting well and firmly done and the plants neatly arranged. Notable plants pointed out were Læliocattleya Schrœderæ var. Stamperland, Lc. Marina superba, Lc. Profusion, Cattleya Falco, Brassocattleya Heatherwood, Bc. Olympus, Bc. Sofrano var. Stamperland, Bc. Crofutiana, etc. A healthy lot of unflowered seedlings was suspended from the roof, a position that apparently suits them well.

The Odontoglossums are contained in a division of this house, and, here again, good culture is in evidence, the new bulbs equalling or surpassing the previous ones, with spikes of the texture that ensures good flowers. Quite a fine show was here, the striking things in flower including O. Illustworth var. King of the Blues, O. amabile var. Princess Arthur of Connaught, O. Freckles, Odontioda Madeline, very distinct, and other hybrids. The very fine Odontoglossum crispum Priscilla is also in this collection, as well as other varieties of this species.

We now come to the Cypripedium house, a structure with centre and side staging, and here was really a fine display, exemplifying the value of this genus, which is becoming increasingly popular as a winter bloomer, no matter where grown. It was a great pleasure to see the excellent condition of these plants, and Mr. Paterson may be justifiably proud of them. Some sixty different hybrids, all well-recognised kinds, and many of them of a very high standard, were here in flower. Some fine examples of Odin were noted, two each having four flowers; Etta, with the characteristic claret-blotched dorsal sepal; Lord Wolmer, Westonbirt var.; Rossettii, in variety; Our Prince, etc. A very perfectly modelled flower is the new Cypripedium Stamperland (Glorita × Christopher var. Grand Duke Nicholas), the dorsal sepal being low down behind the petals, and the flower well balanced. A fine variety of C. Fantasia was also noted, this belonging to the giant type bred from Christopher var. Grand Duke Nicholas, and likely to be the producer of further improvements.

It will be noted in the report of the Royal Horticultural Society's meeting of December 2nd, that a Lindley Medal was awarded to Mr. Merry for the culture of the Cypripediums staged from the Stamperland collection on that date.

The Cymbidiums are grown in a small conservatory by themselves, and are giving a good show of spikes.

The above scanty notes may give some idea of this collection, but it is difficult to convey the zeal with which the culture of the plants is being followed up, and it is this zeal that is going to carry the collection far.

J.M.B.

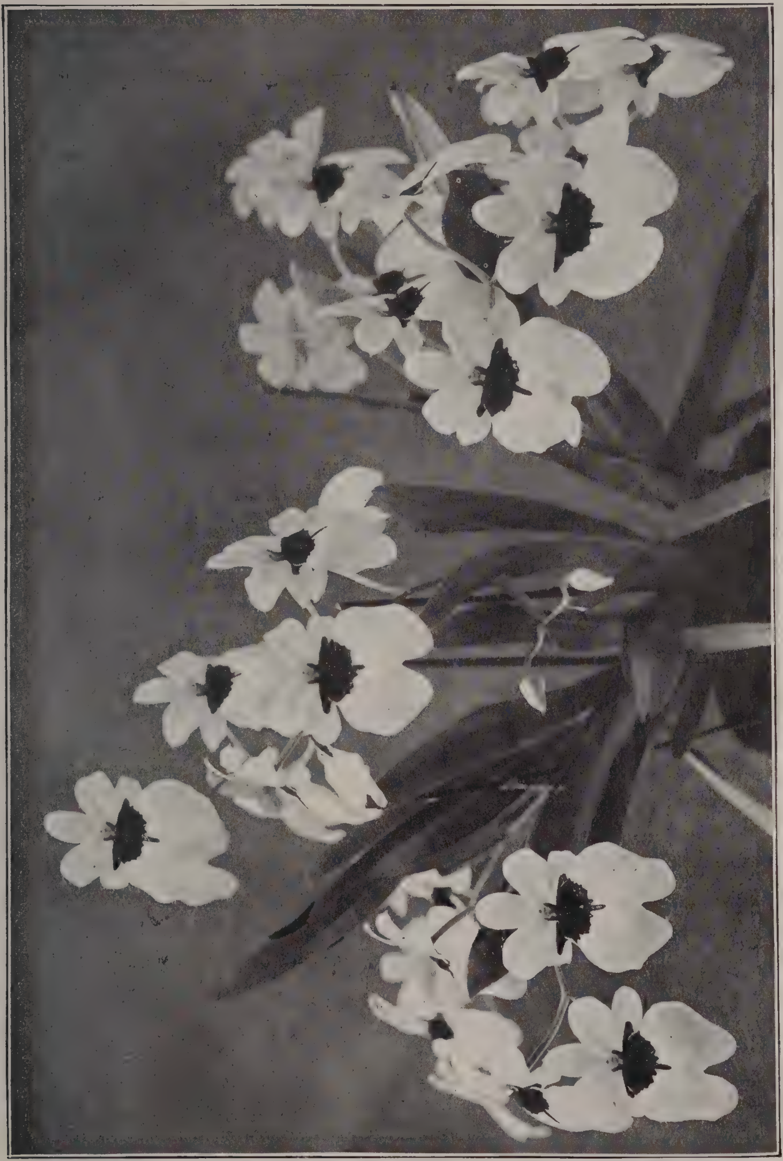
NEW HYBRIDS.

NAME.	PARENTAGE.	EXHIBITOR.
Brassocattleya Alfred Dean... ...	C. Sirius × Bc. Vilmoriniana	Charlesworth & Co.
Brassocattleya Fabia	C. Fabia × Bc. Massangeana	Flory & Black.
Brassolæliocattleya Orceola	Bl. Digbyano-purpurata × C. Trianæ ...	Clement Moore, Esq.
Cattleya Coret	La Nymphe × Warscewiczii	Sir H. Leon, Bart.
Cattleya Joan	Fabia × Lambeauii	C. J. Lucas, Esq.
Cattleya Queenie	Hesta × aurea	J. & A. McBean.
Cymbidium Emerald	Lowio-grandiflorum × Tracyanum ...	Stuart Low.
Cymbidium Mona	Tracyanum × pendulum	Cowan & Co.
Cypripedium Ceryl	Ceres × Beryl	Sanders.
Cypripedium Fantasia	Cyclops × Christopher	Flory & Black.
Cypripedium Imperator	Alcibiades × Pyramus	Sir Geo. Holford.
Cypripedium Mons. O. Opoix ...	Mad. Albert Fevrier × Druryi	Mons. Cuny.
Cypripedium Stamperland	Glorita × Christopher	R. Paterson, Esq.
Cypripedium Valkyrie	Earl of Tankerville × Aeson	S. Gratrix, Esq.
Læliocattleya Cardinal Mercier ...	Lc. Baron Coffinet × C. Hardyana ...	Mons. J. Janssens.
Læliocattleya Cherub	H. T. Pitt × Serbia	Flory & Black.
Læliocattleya Fame	C. Fabia × Lc. Sir Douglas Haig ...	Sir Geo. Holford.
Læliocattleya Mme. Lucia	C. Iris × Lc. Colmaniana	Mons. J. Janssens.
Læliocattleya Navajo	Lc. callistoglossa × C. Ballantineana ...	J. P. Mossman.
Læliocattleya Rentier	Lc. Rubens × C. Lord Rothschild	Sir H. Leon, Bart.
Læliocattleya St. Maria-burg ...	George Woodhams × Dominiana	Mons. J. Janssens.
Miltonioda Boadicea	Miltonioda Harwoodii × M. vexillaria ...	Charlesworth & Co.
Odontoglossum Delphin	illustrissimum × nitidum	J. & A. McBean.
Odontoglossum Epsilon	ardentissimum × Sambo	,, ,,
Odontoglossum Figaro	Vardar × Aglaon	Charlesworth & Co.
Odontoglossum Minotaur	Cordoba × Clovis	,, ,,
Odontoglossum Reve d'Or	Boadicea × harvengtense	,, ,,
Odontoglossum Thyades	Jasper × St James	,, ,,
Odontoglossum Zeta	Jasper × mirum	J. & A. McBean.
Odontonia Regalis	M. vexillaria × O. Aquitania	Charlesworth & Co.
Phalænopsis Fernand Denis	Artemis × Sanderiana	Mons. Bultel.

TERRESTRIAL ORCHID HYBRIDS.—Mdle. Aimée Camus contributes "Some Hybrid Orchids" to the *Riviera Scientifique*, 1924, No. 3. Mention is made of Ophrys Todaroana (aranifera × atrata), O. Jeanperti (aranifera × litigiosa), O. Camusii (aranifera × exaltata), O. Kelleri (arachnitiformis × atrata), O. Cortesii (atrata × litigiosa), O. Godferyana (arachnitiformis × aranifera, and O. Brœckii (arachnitiformis × litigiosa). Bigeneric hybrids are also referred to in Orchiserapias Correvonii (Ophrys picta × Serapias Lingua), and O. Barlæ (O. papilionacea × S. Lingua), as well as in Orchiaceras Bergoni (Aceras anthropophora × Orchis Simia), Barlaceras Terraccianoi (Aceras anthropophora × Barlia longibracteata), and Orchiplatanthera Fournieri (O. sambucina × P. bifolia).

* * *

ODONTOGLOSSUM ELIZABETH MIDGLEY.—A very pleasing addition to the cirrhosum section of Odontoglossums has been raised in this hybrid between O. Queen Alexandra and O. cirrhosum. The former parent is a hybrid between Harryanum and triumphans, and is noted for the large blotch of reddish colour on the labellum, a feature that is markedly inherited in Odontoglossum Elizabeth Midgley. Although the segments of this novelty are somewhat narrow, as is the case with all cirrhosum hybrids, they are prettily formed and impart to the full spike of 16 flowers a very decorative effect.



MILTONIA VEXILLARIA VAR. G. D. OWEN.

Miltonia vexillaria var. G. D. Owen.—This distinct variety appeared some years ago amongst a batch of imported plants. The attractive feature is the dark maroon-purple blotch on the base of the labellum. It has proved of considerable value in the production of various hybrids, the characteristic blotch being perpetuated in a large proportion of the resulting seedlings, adding much to their elegance.

NOTEWORTHY PLANTS.

CYCNOCHES CHLOROCHILON.—How seldom do we see this plant in collections, much less so in flower. Probably a fresh importation is required to replenish our greenhouses with vigorous specimens. Unlike many others in the genus, the two sexes of flowers do not differ much, except that the female flower has a stout ovary and a short, stout column, with a triangular wing on each side of the column, but no anther. The perianth is slightly larger and more fleshy. The first female flower recorded appears to have opened in the collection of M. Houzeau de Lahaie, of Hyon, near Mons, Belgium, in 1891, and was especially interesting as it allowed the mystery of the two sexes in the genus to be cleared up.

ONCIDIUM SPILOPTERUM.—This species originally appeared in Loddiges' collection at Hackney, by whom it was imported from Brazil. It was described by Lindley in 1844. It is an attractive Orchid, and very unusual in its brilliant contrast of crimson and yellow.

GRAMMANGIS ELLISII.—This distinct species bears the name of its discoverer, the Rev. W. Ellis, who " found it growing on a branch of a tree about the size of a man's leg, and stretching over a river at about 25 feet above the water. The roots were abundant, but short, white, fleshy and matted together, a little larger than the roots of Ansellia africana." The first introduced plants were cultivated by Mr. Ellis, at Hoddesdon, Herts, and one of them flowered for the first time in August, 1859. It is a native of Madagascar, and consequently requires a hot-house for its successful cultivation.

STANHOPEA BUCEPHALUS.—This specific name of this plant is fanciful, literally " ox-head." It was discovered growing on the trunks of old trees in shady woods near Cuenca, in Ecuador. It is sometimes confused with S. Wardii, but may be distinguised by the much narrower hypochile of the lip, in which the maroon spots so conspicuous in Wardii are absent; also by the more attenuated horns of the mesochile and more slender column. The flowers are strongly fragrant.

ANGULOA UNIFLORA.—It was upon this plant that the genus Anguloa was founded by the Spanish botanists Ruiz and Pavon. It was discovered by them during a visit to Peru in 1777-88, and where years later Walter Davis found it growing among the scrub and low bushes, generally in partial shade, and associated with Selenipedium caudatum. It was not until 1844 that it became known to horticulture, in which year a plant collected by Linden in Colombia two years previously flowered in Mr. Barker's collection at Springfield, Birmingham. The flowers are creamy-white, sometimes tinged with pink on the inside.

ROYAL HORTICULTURAL SOCIETY.

December 2nd, 1924.

MEMBERS of the Orchid Committee present:—C. J. Lucas, Esq. (in the chair), Messrs. Gurney Wilson (Secretary), Jas. O'Brien, F. J. Hanbury, S. W. Flory, H. T. Pitt, H. G. Alexander, Clive Cookson, F. K. Sander, G. F. Moore, J. Cypher, J. E. Shill, C. H. Curtis, H. H. Smith, T. Armstrong, A. McBean, John Cowan, E. R. Ashton, R. G. Thwaites and J. Wilson Potter.

FIRST-CLASS CERTIFICATES.

Cypripedium Crusader, Westonbirt var. (Lucifer × Julian), from Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander). An excellent hybrid in which both size and colour are fully represented. The roundly-formed dorsal sepal is heavily stained with crimson-purple, except for the upper part, which is white; petals and labellum yellowish, tinged with mahogany colour.

Brassocattleya British Queen var. splendens (Bc. Digbyano-Mendelii × C. Lord Rothschild), from Messrs. Cowan & Co. A grand flower of immense size and of rose-pink colour, the prettily fringed labellum deep-rose colour on the front and side lobes, the throat yellowish.

Cypripedium Cappamagna var. Fred Sander (Cardinal Mercia × Nubia), from Messrs Sanders. A well-proportioned flower, rendered specially attractive by the rich purplish colouring on the large dorsal sepal.

Cypripedium Doris Stanton (Goliath × Pyramus magnificum), from G. F. Moore, Esq., (gr. Mr. W. H. Page), Chardwar, Bourton-on-the-Water, Glos. One of the largest of Cypripediums, the dorsal sepal flushed with rose on the lower half, the upper part white; petals and labellum broadly developed, brownish-yellow, tinged with purple.

AWARDS OF MERIT.

Odontonia Alexandra (Odontonia Merope × Odontoglossum Crethus), from Messrs. Charlesworth & Co. Another step in the formation of a warm-growing Odontoglossum, produced by the inclusion of Miltonia in the former parent. Sepals and petals blotched and spotted with purple, the broad labellum having a dark red base and yellow crest.

Odontonia Olivia var. Princess (M. Bleuana × O. triumphans), from Messrs. Charlesworth & Co. An improvement on the original form, the spike bore four large flowers, of golden colour and with dark brown blotchings.

Cypripedium Our Prince (Goliath × Tommy Curte), from Robert Paterson, Esq., Stamperland, Cathcart, Glasgow (gr. Mr. Merry). A boldly-formed flower, the large dorsal sepal effectively marked with dark purple spotting, labellum honey-yellow tinged with red-brown.

Cypripedium Odin (Antinous × nitens-Leeanum var. Becktoniæ), from Robert Paterson, Esq., Stamperland, Cathcart, Glasgow. A handsome result in which the good qualities of both parents are pleasingly blended.

Cypripedium Mildred var. Mrs. Stephen Anderson (bourtonense × Christopher var. Grand Duke Nicholas), from G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, Glos. A large flower of light greenish colour, the immense dorsal sepal having the upper part white, the ventral sepal almost as large and similarly coloured.

GROUPS.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, Glos., received a Gold Medal for a splendid exhibit of magnificent Cypripediums, while a Silver-gilt Lindley Medal was awarded to his Orchid grower, Mr. W. H. Page, in recognition of the skilful cultivation. Of outstanding merit were the many superb varieties of Cypripedium Chrysostom, including Amy Moore, Richard Fort and Lord Lambourne. Other noteworthy kinds were Warrior, W. H. Page, Baron Germaine and Pickaninny, the latter of rich coloration. Another fine hybrid was staged in Cyp. Memoria F. M. Ogilvie var. The Queen. The back of the group was artistically formed with Cymbidiums and Odontoglossums.

Robert Paterson, Esq., Stamperland, Cathcart, Glasgow, received a Silver-gilt Banksian Medal for a praiseworthy group of over 60 Cypripediums, the excellent cultural condition of which secured for their grower, Mr. Merry, a Bronze Lindley Medal. In the centre was the new Cypripedium Stamperland (Glorita × Christopher), a large flower of bold design, and on each side fine varieties of Lord Wolmer, Rossettii, Mavis, Odin, The Baron and Leeanum. Odontoglossum Martius bore pretty flowers with the segments rose-tipped, O. scintillans carried a spike of ten flowers of deep-rose colour, and there were also selected varieties of O. crispum.

Messrs. Sanders were awarded a Silver-gilt Medal for a large group, containing Brassocattleya Crofutiana var. stupendua, with three very large flowers of rose-pink colour. Cattleyas were best represented by Bellona, cream coloured, the labellum margined with rose, and by General Poulteney, of which three varieties were staged, Læliocattleya Ivanhoe and Lc. Eric Sander, the latter having a bright purple labellum. Cymbidium gattonense var. umbrosum, C. Doris and C. Atalanta were all in fine form, as also was Lælia Gouldiana. A rarity was seen in Cœlia bella.

H. T. Pitt, Esq., Stamford Hill (gr. Mr. Thurgood), was awarded a Silver-gilt Banksian Medal for an interesting exhibit comprising the singular Epidendrum Laucheanum, with a slender pendulous spike of 62 small flowers. E. umbellatum and E. Endresio-Wallisii were also staged. Cypripediums were represented by Royal George, Chas. Richman and the

Chardwar variety of F. M. Ogilvie. Other plants included Oncidium bicallosum, the rare Odontoglossum Duvivierianum and well-flowered examples of Masdevallia tovarensis.

Messrs. Cypher & Sons received a Silver-gilt Banksian Medal for an extensive display of the best Cypripediums, including Alcibiades, Maudiæ, Moonbeam and the Westonbirt varieties of Niobe and Lord Wolmer. In the centre was Lælia anceps Schrœderæ, L. anceps alba and Calanthe Harrisii. Among the Masdevallias were specimens of tovarensis, while in other prominent places were Odontiodas and a vigorous plant of Trichosma suavis.

Messrs. Cowan & Co. received a Silver Banksian Medal for a well-arranged group, containing several superb varieties of Brassocattleya British Queen, Cattleya Salara, with a spike of four pure-white flowers, and an excellent plant of Cœlogyne Mooreana with five erect spikes. Cypripediums were seen in Swallow, Shogun Goliath, Nigger, and J. G. Fowler's variety of Leeanum. A pretty Odontoglossum was staged in Rosina, rose-tinted with darker spotting.

Messrs. Stuart Low & Co., received a Silver Banksian Medal for an exhibit containing a well-flowered plant of Vanda cœrulea, Cymbidium Tracyanum, Oncidium bicallosum and the interesting Cirrhopetalum picturatum. Læliocattleyas were best represented by luminosa aurea and Colmaniana, and Brassocattleyas by Penelope. Sophrocattleya November bore richly-coloured flowers, and there were also several meritorious Cypripediums.

Messrs. J. & A. McBean were awarded a Silver Banksian Medal for a select group, Cypripediums being prominent and including Maudiæ, Linda, Charlesianum, Dreadnought and insigne Royalty, the latter of yellow colour and entirely without spotting. Odontoglossum crispum and O. amabile were in fine form, while O. Dodeham bore a spike of 13 reddish flowers and C. Carmen a spike of 12 large flowers.

A. J. Hollington, Esq., Enfield, received a Silver Banksian Medal for a meritorious exhibit of Cypripediums, the centre plant being a five-flowered example of venustum pardinum. Other noteworthy representatives of the genus were Hiawatha, Dreadnought, Cyclops, Rossettii, beechense and Pallas Athene.

Sir Arthur Watson, Finchley (gr. Mr. F. A. Bush), was awarded a Bronze Banksian Medal for an exhibit of Cypripedium insigne Sanderæ, C. Arthurianum pulchellum, C. Leeanum, and several large plants of a Cypripedium hybrid. Cœlogyne speciosa and Lycaste Skinneri were also staged, as well as various Oncidiums and Odontioda Zenobia.

Baron Bruno Schröder, Englefield Green, Surrey (gr. Mr. J. E. Shill), staged four cut spikes of Calanthe Harrisii, with nearly forty large white flowers on each.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), exhibited Cypripedium Moonlight, Westonbirt variety (Actæus Bianca × Moonbeam), with a white dorsal sepal, green at the base, petals and labellum greenish-yellow.

Messrs. Charlesworth & Co. staged Odontonia Merope var. Dainty (M. Bleuana × O. illustrissimum), with a spike of five rose-flushed flowers, and Odontonia Milly (M. Bleuana × O. percultum), with a spike of eight flowers, the labellum having a brownish base.

December 16th, 1924.

Members of the Orchid Committee present: C. J. Lucas, Esq. (in the Chair), Messrs. Gurney Wilson (Secretary), Jas. O'Brien, Sir Frederick Moore, H. T. Pitt, A. Dye, H. G. Alexandra, J. E. Shill, J. Wilson Potter, A. J. Kaye, T. Armstrong, John Cowan, A. McBean, H. H. Smith, W. H. Hatcher, F. K. Sander and Fredk. J. Handbury.

FIRST-CLASS CERTIFICATE.

Cypripedium Perseus (Alcibiades × Lady Dillon), from Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander). An elegant hybrid of fine formation and rich coloration. The roundly shaped dorsal sepal white, green at the base, marked with large crimson spots on the lower portion, and with smaller ones on the upper area; petals and labellum broadly developed, of shining mahogany-red colour, and margined with yellow; a conspicuous feature is the clear yellow staminode. This plant was originally in the collection of the late Mr. W. R. Lee, and received an Award of Merit, January 14th, 1919.

OTHER EXHIBITS.

Messrs. Sanders were awarded a Silver Banksian Medal for a prettily arranged group composed of choice Cypripediums and Cymbidiums. The former included Thunderer, of improved Leeanum type; Priam, one of the prettiest of the Fairrieanum hybrids; insigne var. Grand Duke, a finely built flower, and Rheims var. Vivid, of bright coloration. Cymbidiums included a finely grown specimen of Tracyanum, with strongly scented flowers, Erica, Atalanta, with buff-yellow flowers, Schlegelii, of pink tinge, and Fairy, of yellow colour with reddish markings on the lip. Odontoglossums were best represented by Astarte, with a spike of 14 flowers.

J. J. Bolton, Esq., Claygate, Surrey, exhibited Odontoglossum ardentissimum var. Pintadeau, a robust plant now shown in its finest condition. The branched spike bore a total of 83 flowers. A Bronze Banksian Medal was awarded to the grower, Mr. S. Lyne. Two years ago this plant bore a spike of 30 flowers.

THE ORCHID CLUB.

THE Meeting of the Orchid Club held on December 12th, was the occasion of a considerable and interesting display of plants.

At 3 o'clock, Prof. F. E. Weiss, F.R.S., gave a short address on Pollination. After describing the various adaptations for self-pollination, he referred at length to the investigations which had been carried out to explain the phenomenon of apparent sterility, and suggested that collaboration between the University Botanical Department, and the members of the Club should be encouraged to elucidate further this interesting problem.

Diploma of Merit.

Odontoglossum Lucretia var. Lady Thom (amabile × St. James), from Sir William Thom. The small plant carried a spike of six flowers, each three inches wide, in shape like that of a good crispum. Sepals and petals of solid violet colour with white tips; the labellum large and flat, and of similar colour. It will probably be much finer when the plant reaches maturity.

Groups.

B. J. Beckton, Esq. (gr. Mr. W. A. Stewart), showed a large and effective group composed of Cypripediums and Calanthes, including Cyp. Warrior, Green's var.; Ballet Girl; Ballyhandy; J. M. Black, Beckton's var.; and various varieties of crimson Calanthe.

A. T. Cussons, Esq. (gr. Mr. F. Cookson), exhibited an imposing assemblage of Cymbidiums and Cypripediums, amongst which was a fine variety of Cymb. Tracyanum, Castor and Alexanderi, McBean's var. Cypripediums embraced Undaunted, Becktoniæ, Baron Harefield, and others.

Sir William Thom (gr. Mr. R. Williams), staged a group of selected Cypripediums, including Grand Duke Nicholas, Maudiæ, Hermes, Nirvana, and Orbis.

Mrs. Fred Hardy had an elegant group of Odontoglossums arranged along with a selection of Cypripediums shown by Dr. Craven Moore (gr. Mr. C. Branch). Conspicuous in the latter were a number of finely developed flowers of Alcibiades magnificum, illustre and Vashti, as well as C. Prince albert, Chardwar var., of brilliant crimson colour.

George Taylor, Esq., exhibited a selection of Cypripediums, including Perseus with two very fine flowers.

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Orchid Catalogue.—Messrs. A. J. Keeling & Sons have issued a new catalogue containing special offers of choice duplicate Orchids from a well-known collection in the north of England.

MANCHESTER ORCHID SOCIETY.

November 7th, 1924.

MEMBERS of Committee present: Messrs. J. Cypher (in the Chair), A. Burns, A. Coningsby, D. A. Cowan, A. Keeling, J. McCartney, E. W. Thompson, and H. Arthur (Secretary).

FIRST-CLASS CERTIFICATE.

Cypripedium Olympia (Olympus × Leeander), from P. Smith, Esq. A fine large flower, dorsal sepal with brown and rosy spots at base, upper part margined with white.

AWARDS OF MERIT.

Cypripedium Dr. Clayton (Charlesworthii × Gurkha), and Cyp. Dr. Clayton var. Purity, from H. J. Bromilow, Esq.

Cypripedium The God Pan (Lord Wolmer × Satyr), from Mrs. Bruce and Miss Wrigley.

OTHER EXHIBITS.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), were awarded a Silver-gilt Medal for a group of Cypripediums in variety, as well as Cattleya hybrids.

Messrs. Cypher & Sons received a Large Silver Medal for a group of Cypripediums, including fine varieties of Goliath and Thalia.

Messrs. Cowan & Co., exhibited a very fine variety of Brassocattleya British Queen, Lc. Hassallii alba, and Odontoglossums.

Messrs. A. J. Keeling & Sons staged various Cypripediums and Odontoglossum scintillans.

Mr. D. McLeod also showed interesting Cypripediums.

November 21st, 1924.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. H. Astley Bell, A. Coningsby, J. Cypher, J. Evans, W. Giles, A. Keeling, D. Losh Thorpe, F. K. Sander and H. Arthur (Secretary).

AWARDS OF MERIT.

Cypripedium Madras (Fairrieanum × Gaston Bulteel), and Cyp. Eros II. (Queen Alexandra × Alcibiades), from H. J. Bromilow, Esq.

CULTURAL CERTIFICATES.

Mr. J. Evans, for general excellence of plants exhibited.

Mr. G. Giles, for Cypripedium Queen Alexandra var. nobilior.

OTHER EXHIBITS.

A. Hanmer, Esq., Buxton (gr. Mr. W. G. Giles), was awarded a Silver-gilt Medal for a Group containing excellent Cypripediums, various Odontoglossums and Cattleyas.

Messrs. Cypher & Sons were awarded a Silver Medal for a group of choice Cypripediums, Calanthes and Odontiodas.

Messrs. Sanders received a Silver Medal for an exhibit of Cypripediums in variety, Brassocattleyas and Sophrocattleyas.

Mr. J. Evans, Colwyn Bay, staged Cypripedium Goliath, C. insigne, Sanderæ, a pleasing variety of Odm. crispum, and Odontioda Monarch.

December 3rd, 1924.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. A. Burns, A. Coningsby, D. A. Cowan, J. Cypher, A. G. Ellwood, J. Evans, W. G. Giles, Capt. W. Horridge, D. Losh Thorpe, E. Tack, J. Thrower, E. W. Thompson, and H. Arthur (Secretary).

FIRST-CLASS CERTIFICATES.

Cypripedium Cappamagna var. Samuel Gratrix, an exceptionally large dorsal sepal, very broad, white ground, lined and flushed with reddish-purple and having a deep crimson line in the centre: petals broad, labellum reddish-purple; from S. Gratrix, Esq.

Cypripedium Llewellyn Hanmer (Christopher × Goliath), large, well-shaped flower, dorsal sepals white, with green base, marked with brown and purple spots; from Messrs. A. J. Keeling & Sons.

AWARDS OF MERIT.

Cypripedium Cavalier (Earl of Tankerville × Hera); C. Lord Allenby (Gaston Bulteel × Baron Harefield); Odontioda Eastern Monarch; from Mrs. Gratrix.

Cypripedium Damascus (Earl of Tankerville × Dreadnought); from Messrs. A. J. Keeling & Sons.

AWARD OF APPRECIATION.

Cypripedium Paladin (Reginald Young × Fairrieanum); from Mrs. Bruce and Miss Wrigley.

GROUPS.

A Hanmer, Esq., Buxton (gr. Mr. G. Giles), was awarded a Silver-gilt Medal for a fine exhibit of Cypripediums, including Shogun, King George, Dreadnought, and Odontoglossums in variety.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), received a Silver-gilt Medal for a group of Cypripediums in great variety, comprising Pallas Athene, Dreadnought, Maudiæ magnificum, and a collection of home-raised seedlings.

S. Gratrix, Esq., West Point, staged a group to which a Large Silver Medal was awarded. It included Cypripedium Londinum, Viking, Seagull, Cavalier, and Odontoglossums.

Messrs. Cypher & Sons were awarded a Silver-Gilt Medal for a group of choice Cypripediums, including Snow Queen, Cavalier, Niobe, Vandyke, Olivia, and Ballet Girl.

Mr. John Evans, Colwyn Bay, staged a group to which a Large Silver Medal was awarded. Among the plants of interest were Cypripedium Cappamagna, Nydia, Goliath, Brassocattleya Nestor and Cattleya Douaii.

Messrs. Stuart Low & Co. received a Large Silver Medal for an exhibit comprising Cattleya Annette, Læliocattleya Yellowstone, Lc. luminosa aurea, Brassocattleya Nestor, Lælia Gouldiana, various Cypripediums and Oncidiums.

Messrs. Cowan & Co. were awarded a Silver Medal for an exhibit of choice Cypripediums, a fine variety of Brassocattleya British Queen, Lælia Gouldiana and others.

Messrs. Keeling & Sons staged Cypripediums in excellent form, including Holford's variety, of Corsair.

Messrs. Charlesworth & Co. staged an interesting exhibit of Odontonias in variety, including Olivia var. Princess.

Mr. J. Birchenall, Alderley Edge, staged Odontoglossum seedlings.

Mr. D. McLeod, Chorlton-cum-Hardy, exhibited Cypripedium seedlings.

Mr. E. Shaw, Congleton, exhibited a collection of Orchid Paintings.

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AËRIDES.—These are not the easiest Orchids to handle for repotting even under favourable conditions, the roots are very brittle, and it is a difficult matter to avoid breaking them, when eudeavouring to get them inside the pot. The difficulty is greatly minimised by commencing to repot them, before they advance the new roots far. It is not always necessary to repot annually, but it is necessary to have the potting compost as sweet as possible. The long season of rest which this class of plant requires, when water is practically withheld for months, causes the surface moss sometimes to decay. This is easily replaced, and it is therefore undesirable to pot any plant unless the material is unsuitable or the plant has outgrown its receptacle. In repotting it will be found that many roots have become attached to the sides of the pots. These may be detached by the aid of a knife in many cases, and sometimes the pot may have to be broken carefully, and the roots with the broken pot attached, placed inside the new receptacle. Such tall growing ones as A. Lawrenceanum, A. expansum, A. Houlletianum, A. Sanderianum and A. odoratum, do best in pots. The smaller growing ones of the A. multiflorum section, such as A. affine, A. Lobbii, A. maculosum, and others do well suspended from the roof in pans, which should be sufficiently large to hold the plant comfortably. Provide plenty of drainage, and fill in the remaining space to within one inch of the rim with broken crocks and sphagnum, over which place a layer of fresh picked heads of sphagnum moss.

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The most beautiful Tropical Species with their many choice varieties. ALBINO and otherwise.

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:: BOTANICAL varieties ::

HYBRID ORCHIDS in endless variety, and from the finest parents.

Over Twenty Large Modern Houses entirely devoted to the Collection.

A visit to our houses by anyone interested in these beautiful—and for the most part easily grown—plants would be much appreciated.

Our experience is at the service of any amateurs wishing for advice upon any matter connected with the cult.

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(Formerly Hybrid Establishment of Messrs. JAS. VEITCH & SONS, Ltd.,
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Vol. XXXIII.] FEBRUARY, 1925. [No. 380.

NOTES.

Victoria Medal of Honour.—We learn with pleasure that the Victoria Medal of Honour has been conferred upon Professor William Wright Smith, Regius Keeper of the Botanic Garden at Edinburgh, and Mr. George F. Moore, of Chardwar, Bourton-on-the-Water, Glos.

R.H.S. Special Shows, 1925.—The Royal Horticultural Society has arranged for Cymbidiums to be a special feature of the meeting to be held on March 10th and 11th, Odontoglossums on April 7th and 8th, and Cypripediums on December 1st. The Chelsea Show will take place May 19th-23rd, the Holland Park Hall Show on September 22nd-24th, and the Autumn Orchid Show on October 20th-21st.

Sander Medal.—In memory of the good work that was done for horticulture by the late Mr. H. F. C. Sander, the firm of Messrs. Sanders presented to the Royal Horticultural Society the Sander Medal, to be awarded annually for the best greenhouse novelty of the year. For the year 1924 it has been awarded to Mr. G. F. Moore, Chardwar, Bourton-on-the-water, Glos., for raising Cypripedium Doris Stanton, exhibited on December 2nd, when it received a First-class Certificate.

Vanda insignis.—First discovered by Blume in the island of Timor some time prior to 1848, the date of the publication of *Rumphia*, in which it is figured and described. It was re-discovered by Hutton, in 1866, and introduced to English gardens in the following year. It flowered for the first time under cultivation in the autumn of 1868, but remained a rare plant until re-imported in 1882, through Curtis. Leaves 9-12 inches long, and about an inch broad, obliquely incised and toothed at the apex, strongly keeled beneath. Racemes scarcely longer than the leaves, 4-7 flowered. Flowers 2-2½ inches in diameter, on white, twisted, grooved pedicels; sepals and petals bright tawny yellow with brown oblong spots that are confluent at the margin and apex; labellum with two short white basal auricles and two low white ridges between them; blade broadly clawed, semilunar, bright rose-purple; spur compressed, recurved. Column very thick, stained with pale rose. The variety Schrœderiana, recorded in 1883, was received with Curtis' consignment; it differed greatly in colour from the type, the sepals and petals being light yellow shaded with orange, lip cream-white with two orange lines in front of the spur.

"Gartenschönheit."—The January issue of this attractive publication contains coloured plates of Sophrolæliocattleya Meuse magnifica and Cattleya Suavior, Low's variety, both life size. In addition to extensive articles on Orchid culture in England and Orchid hybridisation, there are photographic reproductions of Læliocattleya Canhamiana, Lc. Teucra, Cattleya Percivaliana, Odontonia Dora, Odontoglossum Penelope, Odontioda Bradshawiæ, Selenipedium grande, Brassolæliocattleya Everest and Miltonia Bleuana var. Reine Elizabeth. "Gartenschönheit" is published at:—Akazien-Allee 14, Berlin-Westend, Germany.

"Garden Improvement."—Under this title Mr. T. Geoffrey W. Henslow, M.A., has written a book which may be described as a sister book to the two built upon the same lines that have already appeared as "Garden Construction" and "Garden Development." As may be expected, the section devoted to Orchids for amateurs receives prominent recognition, and much useful information is given. The author dispels the idea that Orchids are beyond the purse of the average lover of flowers, and holds the opinion that a man is best judged by his hobbies, a keen interest in horticulture being the hallmark of a kindly spirit, to say nothing of intellectual capabilities. Orchids by way of interest come second to no flower. Chapters are given detailing the daily treatment of the cool-house and the intermediate-house sections. Among the 368 pages are numerous illustrations that add considerably to the utility and attractive nature of this book. The published price is 15s.

Roller Blinds.—When the roller blinds are in use, there are frequently some spaces through which the rays of the sun can penetrate unbroken, sometimes it is through a division between two blinds, caused by their not meeting close together; or it may be at each end of the hours through the same cause; and such places are very good for plants wanting more sunshine. If such a place should occur in the hottest departments, I would recommend that Oncidium splendidum be there suspended, as this Orchid, with its thick leathery leaves, delights in full sun. Vanda teres and V. Hookeriana could also be grown there with advantage, and many others could be selected which have been mentioned in former Calendars.—*H. A. Burberry.*

R.H.S. ORCHID AWARDS, 1924.

DURING the year 1924, the Royal Horticultural Society's Orchid Committee granted 23 First-class Certificates and 71 Awards of Merit. The popular Læliocattleya still holds its own, no less than 17 certificates of both classes having been given to this section. Odontoglossum follows next with 13, Cymbidium 13, Cypripedium 11, Odontioda 9, Cattleya 7, Odontonia 6, Miltonia 6, Brassocattleya 3, Brassolæliocattleya 2, Vuylstekeara 2, and Orchis, Oncidium, Miltonioda, Wilsonara and Sophrocattleya with one each.

With respect to First-class Certificates only, Læliocattleya heads the list with 6, followed by Cypripedium with 5, Odontoglossum 4, Odontiodas 2, Miltonia 2, Cattleya 2, Brassocattleya and Vuylstekeara 1.

Not a single First-class Certificate was awarded last year to any Cymbidium, which is somewhat surprising when consideration is given to the large number of seedlings raised. The fact that 13 Awards of Merit were given to representatives of the genus proves that it is still popular with amateurs. The introduction of Cymbidium insigne in quantity some years ago afforded wide scope for improving this section, and the last few years have witnessed the production of many attractive novelties. But after the first rush of new crosses, with the accompanying superfluity of certificates, Cymbidiums have settled down to a normal course; they must now be really fine and well above the ordinary for a First-class Certificate to be secured.

Notwithstanding the high standard that has for some time past been maintained in Odontoglossums, progress is still being made, although at a slower rate, as everyone anticipates. In 1924 four First-class Certificates were awarded, one of them to a variety of O. crispum and three to hybrids. The same remarks apply to the genus Cypripedium, the five First-class Certificates proving that larger and more richly-coloured flowers are being produced.

Of the six First-class Certificates given to Læliocattleyas, five of the plants came from the Westonbirt collection, where this section has been specialised in for many years. Great progress has been made with regard to the colour of Miltonias, and we are probably only at the commencement of a long series of further advances.

In the opinion of some members of the R.H.S. Orchid Committee, too many awards are granted, but it is difficult to see how the number can be diminished, having regard to the various sections, and more especially to the enormous amount of work now being put into the hybridisation of Orchids. Of the tens of thousands of seedlings raised annually, only a small percentage secure R.H.S. Certificates.

THE AMERICAN ORCHID SOCIETY.

A MEETING of the Trustees of the American Orchid Society was held at the Hotel Roosevelt, New York City, on November 7th, 1~~8~~924, when the following were present :—Mr. Albert C. Burrage, Mrs. Pierre S. Dupont, Miss Marian R. Case, Mr. Louis Burk, Mr. Clement Moore, Mr. Joseph Manda, Mr. Thomas Roland, Mr. John E. Lager, Mr. Geo. E. Baldwin, and Mr. Alfred J. Loveless.

The first business considered was the report of the Treasurer, and it is gratifying to learn that the Society has a cash balance of over £400. Discussion on the book recently issued by the Society, "An Enumeration of the Orchids of the United States and Canada," brought forth many complimentary remarks on its completeness and the successful manner in which Professor Oakes Ames had accomplished his task. Mr. Burrage recommended a continuation of this constructive work, and said it would be well to do something along permanent lines. He suggested that the Society should get out a book on the Epiphytal Orchids of Florida for their work of 1925, devoting a page to a photograph of the plant growing in its natural environment, another page to a photograph of the flower, and a page of descriptive text. Mr. Joseph Manda suggested the addition of short articles covering the culture of such Orchids as could be easily grown by amateurs. Mr. Thos. Roland approved the idea of Mr. Burrage as being a method whereby Orchids which could be procured in the United States would become more popular. It was resolved that a committee consisting of Mr. Oakes Ames, Mr. Louis Burk and Mr. Thos. W. Nason be appointed to find out the probable cost of publication. It was subsequently decided that the Society appropriate a sum not exceeding one thousand dollars for the publication of the book.

Mr. Clement Moore referred to the future of the Orchid industry. He said that sufficient importance was not given to American raised seedlings in the American exhibitions. He suggested that a committee be appointed to draw up rules, governing the awards at exhibitions, to protect the exhibitors of these plants, and the President appointed Mr. Clement Moore, Mr. F. E. Dixon and Mr. G. E. Baldwin. The question of the proper certification of Orchid hybrids was also considered.

Mr. Burrage spoke of the vote passed at a previous meeting providing for the adoption of Honorary and Corresponding Members, which would include distinguished Orchidists from all parts of the world. The President and Secretary were appointed to prepare the necessary Bye-laws for carrying this into effect.

With regard to the next exhibition, general opinion favoured holding it at Philadelphia, and a large measure of support was promised. Mr.

Clement Moore spoke of the necessity of making an exhibit of hybrid Orchids, for records, before a committee, and various centres were suggested, but being a large country, the distances were considered too great for the transit of valuable plants, and nothing definite was settled. The matter will, however, receive further consideration.

THE FIRST ODONTOGLOSSUM CRISPUM.

AS a matter of historic interest, the *Gardeners' Chronicle* in its issue of December 27th, 1924, produced an illustration showing what purports to be the first Odontoglossum crispum ever flowered in this country. The picture is reproduced from a photograph of the original painting by C. B. Durham, and shows a typical O. crispum of the Pacho type, the flowers being white, slightly spotted on the sepals and labellum. This record, and a portrait of Mr. Henry Blunt, also reproduced, were received from Miss F. A. Bullen, of Bromley, Kent, to whom the painting was presented by Mr. Blunt. From a note which accompanied the photographs we reprint the following :—

"Among the more successful of the collectors of Orchids was Mr. Henry Blunt. Although a matter of much controversy at the time, those immediately concerned had no doubt as to the facts, which were that Mr. Blunt made his great success whilst collecting for Messrs. Hugh Low & Co., in the neighbourhood of Bogota, Colombia, South America, and brought home the first living plants, the first to flower being exhibited in London under the name of Odontoglossum Bluntii. Subsequently this Orchid and also O. Alexandræ were referred to O. crispum."

Much of the early history of O. crispum was given in the *Orchid Review*, vol. xxv. pp. 253-5, and a chapter on "Who discovered O. crispum?" in vol. vi., pp. 84-5. But in the latter it is stated by error that the first flowering in Europe occurred in the collection of Mr. John Day, at Tottenham. This statement was probably taken from Veitch's *Manual of Orchidaceous Plants*, pt. I., p. 30, where it is remarked:—"The collectors Weir, Blunt, and Schlim . . . all suceeded in sending home living plants to their respective patrons, the first to flower in Europe being one in the collection of Mr. John Day, Tottenham, and which had been collected by Blunt, near Pacho."

Although the Odontoglossum section of Veitch's *Manual* was published in 1887, it was not until 1896 that Mr. Wm. Marshall read the above statement and detected the error. The following letter, for some time past in the possession of the Editor of the *Orchid Review*, was written by Mr. Marshall on January 21st, 1896:—"Dear Mr. Veitch, I have only just seen your Monograph on the Odontoglossums. On looking through it I notice on page 30, that you state that the first O. crispum to flower in Europe was in the collection of Mr. John Day. This was not so. Mr. Day and myself met at Messrs. Low's at Clapton and picked over the first importation between us and we both found a plant with a flower spike showing. It was a race who flowered it first, but mine did by three weeks at least, and was then exhibited by me at the R.H.S. Floral Committee and received a F.C.C. as Odont. Bluntii on April 18th, 1865. Low showed next as O. Alexanderæ (named by Mr. Bateman) on Nov. 21st of the same year. He (Mr. B.) and myself had a difference of opinion over the name and I went to Kew, where Mr. Thiselton Dyer worked it out as O. crispum, Lindley. I have still his original sketches of the lip. As I consider it the most useful Orchid ever imported, as well as nearly the most beautiful, I hope, if you run to a 2nd edition, that you will alter this."

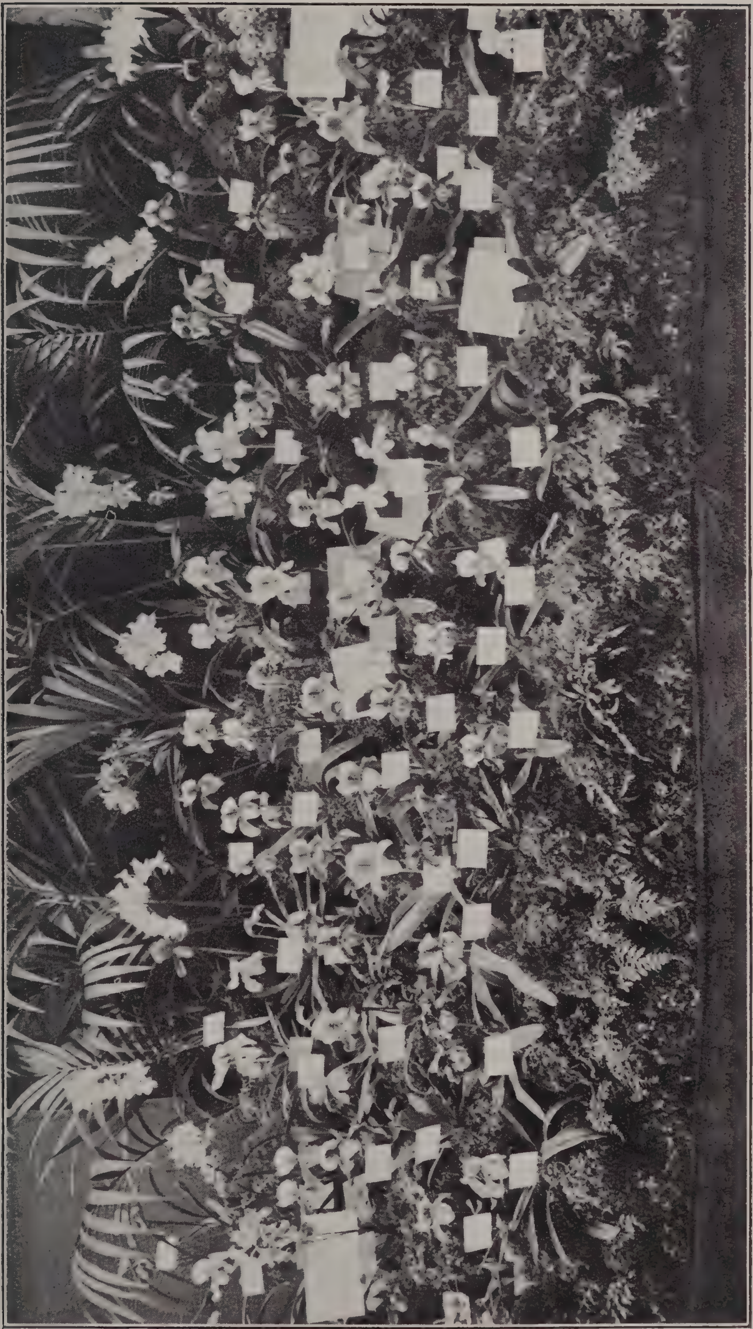
Mr. Wm. Marshall died at his residence, Auchinraith, Bexley, Kent, on November 11th, 1917, a few days before his eighty-second birthday. He was chairman of the R.H.S. Floral Committee for upwards of a quarter of a century. His portrait may be seen in the *Orchid Review*, vol. xxv. p. 252. The R.H.S. Orchid Committee was not instituted until March 26th, 1889, and all Orchids exhibited at the Royal Horticultural Society previous to that date were adjudicated upon by the Floral Committee.

Mr. C. B. Durham was a miniature painter who exhibited largely at the Royal Academy and Suffolk Galleries between the years 1828 and 1858. He was employed by Mr. John Day to make coloured drawings of Orchids, and a note in the Kew correspondence states that there were 300 drawings by this artist made at a cost of £3 each. This beautiful collection is now in the possession of Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

ORCHIDS AT STAMPERLAND, GLASGOW.

OUR last issue contained a descriptive account of the Orchid collection of Robert Paterson, Esq., Stamperland, Glasgow. We now have pleasure in giving a reproduced photograph of the excellent group of choice Cypripediums staged by this amateur at the Royal Horticultural Society on December 2nd, when a Silver-gilt Banksian Medal was awarded, as well as a Bronze Lindley Medal to Mr. Merry in recognition of his cultural ability.

In the centre of the group was Cypripedium Stamperland (Glorita × Christopher var. Grand Duke Nicholas), a large flower of model formation and with attractive spotting on the dorsal sepal. In other places fine varieties of Leeanum, Rossettii, and the Baron stood out prominently. Other distinct hybrids were seen in Mavis and the Westonbirt variety of



PORTION OF THE CYPRIPEDIUM GROUP EXHIBITED BY ROBERT PATERSON, ESQ., AT THE ROYAL HORTICULTURAL SOCIETY, DECEMBER 2ND, 1924.

Lord Wolmer. A pretty flower was staged in Argo-Fairrieanum, and another in Pyramus.

Awards of Merit were given to Cypripedium Odin (Antinous × nitens-Leeanum var. Becktoniæ), a large flower of light greenish colour, the dorsal sepal almost all white; and to Cyp. Our Prince (Goliath × Tommy Curte), of bold construction, the dorsal sepal heavily spotted and margined with white.

In addition to the sixty different Cypripediums, this group contained Odontoglossum Martius (amabile × Jasper), a pretty form with rose-tipped segments, also O. Odin (Aireworth × crispum) and O. scintillans (Rossii × Wilckeanum), with a spike of ten flowers, strongly taking after the former parent, and of deep rose tinting.

WILD ORCHIDS OF TOBAGO.

LITTLE was known of the native Orchids of Tobago until Mr. W. E. Broadway investigated them in co-operation with Mr. G. Humphrey Sworder, a resident planter. Their efforts resulted in fifty-two distinct species and varieties being brought to light, and these were enumerated in the *Bulletin* of the Department of Agriculture, Trinidad and Tobago, vol. xvii, pt. 2 (1918). It may be mentioned for purposes of comparison that Trinidad has 154, Grenada 54, St. Vincent 47, and Jamaica 194 species. Tobago has yielded one new plant, an Ornithidium, which Prof. Cogniaux commemorated to Mr. W. E. Broadway in the years 1909-10. The Tobago Orchids so far known are as follows:—

BRASSIA LANCEANA, Lindl.—Central parts on Forest trees. Flowers greenish-yellow, blotched, fragrant, showy.

BRASSAVOLA CUCCULATA (L.) R. Br.—Flowers white, comparatively large; leaves roundish and fairly long. Grows on small trees above King's Bay.

CAMARIDIUM OCHROLEUCUM, Lindl.—Blossoms of a whitish-yellow colour, lasting but a day or so in their beauty. Frequents partial rotten wood, etc., in the central forests.

CATASETUM MACROCARPUM, L. O. Rich. (C. tridentatum), Monkshood.—Low altitudes in particular. The bulbous growths in mature specimens are large and prominent. Male and female flowers on separate plants, the round yellowish-green, fragrant flowers of the female attract two native bees. Seed pod large, long and carries a cocoon-like structure until the fruit ripens.

CAMPYLOCENTRUM JAMAICENSE (Rchb.) Benth.—Found attached to undergrowths (shrubs), Belmont and Adelphi, hanging from the branches. Flowers white and tiny.

C. pachyrrhizum (Rchb. f.) Rolfe.—A leafless Orchid producing short strings of white flowers. Grows with C. jamaicense, long greyish coloured, flattened roots.

Coryanthes speciosa, Hook. Bat Orchid.—Flower-stems at first upright, hanging ultimately in the specimens of it observed. Mr. Sworder found this always accompanied by black stinging ants which occupied the ball of roots. Flowers yellow or richly spotted with reddish-brown blotches, very fragrant. In the forest on trees.

Cranichis muscosa, Sw.—A small ground Orchid met in one place only near the Widow. Flowers greenish-white.

Dichæa muricata, Lindl.—A small plant bearing whitish flowers. In forest parts on trees.

Diacrium bicornutum, Benth.—The Virgin.—Flowers borne on long stalks, white with marking on the lip. Lasts weeks at a time in bloom. Grows upon rocks and trees in the full blast of wind and sea-spray close to beaches and cliffs.

Epidendrum anceps, Jacq.—Found at The Widow on trees and shrubs.

E. Bradfordii, Griseb.—On trees at Menna central forest, scarce.

E. discolor (Lindl.) Benth.—Occasionally met with growing upon trees in forest lands. There is also an Epidendrum species, not yet determined, a small plant on trees in the forests near Caledonia. Flowers seldom if ever open.

E. fragrans, Sw. Vanilla Orchid.—Clumps of this fix themselves to boulders and trees. Flowers on short stems, white and lilac, fragrant. Usually found inland.

E. fulgens, Brongn.—Forest land on trees, where it develops into good sized clumps. Flowers on long stalks, purplish.

E. globosum, Jacq.—A little grassy-looking plant bearing white flowers. On shrubs and trees at Adelphi, Belmont, Menna, etc.

E. Hartii, Rolfe.—A graceful plant whether in or out of flower. On a tree at Mount Dillon. Flowers primrose-scented, white tinged green. Leaves shiny green. Stems leafy marked with reddish coloured lines.

E. nocturnum, Jacq.—The large form with white flowers is found on trees in the cooler forest districts, as well as a small flowered, narrow leaved one doubtfully referred at present to E. nocturnum.

E. ramosum, Jacq.—On trees in forests, The Widow.

E. rigidum, Jacq.—Flowers yellowish-green coloured. On exposed trees, Adelphi and Belmont, etc.

E. Schomburgkii, Lindl., var. Sworderi. Flowers yellow. On trees in clumps. Recommended for inclusion in cultivated collections.

E. stenopetalum, Hook.—On trees in exposed places at Adelphi and Belmont, etc. Flowers rose coloured.

E. STOBILIFERUM, Rchb., f.—Grows with E. Schomburgkii and E. stenopetalum.

GONGORA ATROPURPUREA, Hook.—Forest woods, attached to trees, scarce. Flowers on hanging stalks, claret coloured.

HABENARIA MACULOSA, Lindl.—Terrestrial. On banks at Adelphi, where, in the early months of the year, the whitish flowers show out prominently among the grasses.

H. MONORRHIZA (Sw.), Cogn.—Banks at Adelphi and abundant in grass lands, Highmoor, near Scarborough. Flowers green.

HEXISIA REFLEXA, Rchb. f.—Clumps of this hang from trees and look like grass leaves. Central parts of the island.

IONOPSIS UTRICULARIOIDES (Sw.), Lindl. — On a Calabash tree, Crescentia Cujete, Providence, in sunlight. Grows in quantities together. Flowers pale purple or lavender colour on branched, upright stems in the bigger plants. Rare.

I. TERES, Lindl.—Central parts of the island on trees. Flowers pale lavender colour. The adult plants much smaller than those of I. utricularioides.

LEOCHILUS LABIATUS (Sw.), O. Kuntze.—Found upon small trees at Adelphi. A conspicuous little plant in flower.

LIPARIS SPECIES.—Collected as a single plant on a bank near Mason Hall. In fruit, but material inadequate for exact determination. Tobago and probably other places.

MICROSTYLIS UMBELLIFLORA (Sw.), Hitchc.—A ground Orchid. Forest Reserve above Caledonia, etc. Flowers green in colour.

MAXILLARIA SPECIES.—A single unflowered specimen met in forest parts near Menna.

OCTOMERIA GRAMINIFOLIA (L.), R.Br. — Forest Reserve above Caledonia on trees. A small species with a running habit upon the bark of trees.

ONCIDIUM GUTTATUM (L.), Rchb. f. (O. luridum, Lindl).—King Peter's Bay, on small trees along the seashore. It seems a strange fact to state that this is the only Oncidium so far found in the island; not even O. papilio having been found.

ORNITHIDIUM BROADWAYI, Cogn.—A new species. Plant small. Road between Belmont and Adelphi, on an Erythroxylon, intermixed with other small-growing Orchids. Tobago only.

O. CONFERTUM, Griseb.—Found with O. Broadwayi, and in one or two other places,

ORNITHOCEPHALUS GLADIATUS, Hook.—A small, fan-shaped Orchid. For the size it flowers profusely. On Calabash, Les Coteaux; and Adelphi, etc., on under shrubs.

Pleurothallis sertularioides, Spreng. var. tritensis, Griseb.—Plant small, running along branches of shrubs, etc. In forest lands.

Physurus plantagineus (L.), Lindl.—Grows in the ground under forest trees, Menna, etc. Flowers white.

Pogonia species.—Trafalgar, in the ground. So far only two small plants have been found, and these were met with by Mr. J. Humphrey Sworder. At present it is doubtful as to which Pogonia it can be referred.

Polystachya luteola (Sw.), Hook. — On a tree, Pigeon Hill, Charlotte Ville. Flowers pale yellow. Seems scarce.

Prescottia stachyoides (Sw.), Lindl.—A ground or terrestrial Orchid in forest parts. Infrequently met.

Scaphyglottis prolifera (R.Br.), Cogn.—Likes to locate itself upon the big trunks of trees in forests. Species small. Flowers white.

Spiranthes acaulis (Smith), Cogn.—Found in the ground on banks, etc., under trees among rotten leaves. Foliage variegated, ornamental. Flowers greenish-white, odour strong and somewhat unpleasant. Plentiful in the districts where it grows.

Stelis ophioglossoides (Jacq.), Sw.—Flowers yellow. Plants small, tufted. On trees in forests.

Stenorrhynchos orchioides (Sw.), L. C. Rich.—Terrestrial in dry, hard, exposed places near public roads, etc. Flowers reddish-yellow, usually. Blossoms in the early months of the year (dry season) before the leaves appear.

Tetragamestus modestus, Rchb. f.—Establishes itself on trees, etc.

Vanilla Hartii, Rolfe.—Near Easterfield. Flowers white, tinted green, slightly odoriferous, but unpleasantly so. Tips of the leaves curl downwards. Climbs up small trees.

V. inodora, Schiede.—The Widow near Caledonia, Menna, etc. A conspicuous plant when seen upon tree trunks with stems thirty, or more, feet long. Leaves large, broad and not fleshy.

V. phæantha, Rchb. f.—Near Easterfield. A large climber, leaves stiff fleshy. Flowers greenish coloured.

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Orchids at Hackensack, N.J., U.S.A.—In the notes on Mr. Clement Moore's collection in our January issue, p. 10, reference was made to the awarding of a Gold Medal at New York, last March. This award was given to an exceptionally fine Brassocattleya Albion, of perfect shape and of the purest white.

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Vanda Kimballiana.—Introduced by Messrs. Low and Co. about the same time as Vanda Amesiana, to which it is allied. Named in honour of Mr. W. S. Kimball, of Rochester, New York, U.S.A.

ORCHIDS OF CENTRAL AMERICA.

A FURTHER account of the Orchids of Costa Rica, by Dr. Schlechter, has been published as vol. xix of *Repertorium specierum novarum regni vegetabilis*, Berlin, 1923. It is divided into four sections:—I, *Orchidaceæ Amparoanæ;* II, *Orchidaceæ Bradeanæ;* III, *Orchidaceæ Brenesianæ;* and IV, *Orchidaceæ novæ et variores collectorum variorum in Costa Rica collectæ.*

In the first part Dr. Schlechter states that in the year 1921 he was surprised by the gift of a large and new collection of Orchids from Mr. A. Tonduz, who, unfortunately, has since died. It was the first important one which he had received from Costa Rica since the war.

Dr. Schlechter was informed by Mr. Tonduz, and also about the same time by Mr. C. Wercklé, that he had to thank Doña Amparo de Zeledon for inducing the former to prepare dried specimens of cultivated Costa Rican Orchids from her collection, and the latter for collecting Orchids from the various districts of the country. The collection received contained a large quantity of novelties. Some months later, however, another collection arrived from Mr. Wercklé. It was exceptionally full of new forms, and was one of the most interesting which Dr. Schlechter had received from Costa Rica during the previous ten years. The cost of this collection had also been defrayed by Doña Amparo de Zeledon. Subsequently, a third parcel arrived containing the collectings of the year 1922.

Doña Amparo had already accomplished much for the investigation of the Bird Fauna of Costa Rica, and by sending out this expedition for the collecting of Orchids she has rendered great service to the botanical research of that country. In bringing the results of her work together under the title of *Orchidaceæ Amparoanæ,* Dr. Schlechter pays a small part of the thanks which botanical science owes to this generous patroness.

The discoveries for which we have to thank Doña Amparo include no less than five new genera for Central America. One of these is already known from Ecuador as the monotypic genus Dipterostele. The new genus Acostæa had shortly before been received from Don Guillermo Acosta. The genera Amparoa, Pachystele, and Costaricæa were contained in the main collection procured by Mr. Wercklé through the commission of Doña Amparo. Costaricæa appears to be limited in its distribution to the State of Costa Rica.

The number of new species is very large, totalling 62, among them some extremely interesting types, all of which are referred to in the special divisions of this book. The novelties are particularly numerous in the genera Stelis, Pleurothallis, Epidendrum and Dichæa. Small genera also contain much that is interesting, as, for example, Fregea, which previously had only a single representative, and now has a second. Other genera are

Lepanthes, with its small and odd flowers, Isochilus, Arpophyllum, with the first endemic species for Costa Rica, Homalopetalum, Cycnoches, Kefersteinia, with two very interesting new species, also a new and very striking Trigonidium (T. Amparoanum), as well as Miltonia and Lockhartia.

Not less important than the discovery of new species is the re-discovery of obscure, or imperfectly described, species. In this respect the Amparo collections contained much that is valuable. Mention may be made of Fregea amabilis, Epilyna, Stelis obscurata, Pleurothallis luctuosa, Barbosella, several Epidendrum species, Encyclia meliosma, Chondrorhyncha Endresii, Trichocentrum Pfavii, Aspasia papilionacea, Oncidium guttulatum, and many others. The re-discovery of such species is not less meritorious than the discovery of new ones, particularly if thereby the exact origin can be established or supplemented. Under these circumstances it has given great pleasure to Dr. Schlechter to dedicate to this generous patroness of science a new genus, Amparoa, and a series of beautiful or interesting species. Dr. Schlechter remarks that he hopes Doña Amparo will be able to continue her investigations of the interesting Orchid Flora of her native country. She has already achieved sufficient to ensure her an honourable place in the history of the botanical investigation of Costa Rica.

II. ORCHIDACEÆ BRADEANÆ COSTARICENSES.

Alexander Curt and Alfred Brade, two brothers from Forst, in the Lansitz, gathered together in the years 1908-10 a collection of dried plants which, on account of the large number of new species contained therein has assured them a special place in the history of the botanical investigation of Costa Rica. Alexander Curte Brade, originally an architect by profession, did not remain long in Costa Rica, but went to San Paulo, in S. America, where he started a plantation principally for the cultivation of rice. Here he also made valuable collections. Dr. Schlechter received two important collections of Orchids from him which had been gathered near Iguapé, in the State of San Paulo. He it was who gave the impetus to the commencement of Orchid collecting in Costa Rica and provided for its accomplishment. Dr. Schlechter received direct collections of Orchids arranged by A. C. Brade.

Alfred Brade, who is still in San José, as a florist, seems to have devoted himself entirely to the work of a practical gardener since the departure of his brother, and has not done any more collecting. The comparatively short time during which the brothers Brade collected in Costa Rica constitutes a remarkable record of botanical investigation in that country. Not only were they able to find many old species that had been discovered by previous collectors, such as Warscewicz, and which had not been seen again, but also a large number of quite new species. Dr.

Schlechter states that in this carefully arranged and described material are very many specimens that have been described by more recent collectors, but which were actually first discovered by the brothers Brade. The scientific value of the whole collection is, in the opinion of Dr. Schlechter, somewhat spoilt by the previously described *Orchidaceæ Amparoanæ*, but particular consideration has been given to the examples in the Brade collection on account of the completeness of the material. Furthermore, there is so much that is really new that the importance of the Brade collection will be recognised by every botanist.

III. ORCHIDACEÆ BRENESIANÆ.

Some years ago, Dr. Schlechter received through the intervention of the late Mr. Tonduz, several Orchids which Prof. Alberto M. Brenes had found in Costa Rica. On the advice of Mr. Tonduz, Dr. Schlechter wrote, in 1919, direct to Prof. Brenes, who then lived in the small town of San Ramon. He had quite given up all hope of hearing from him, when, in the autumn of 1922, he received a wonderful collection of Orchids which contained a large number of particularly remarkable types.

The small town of San Ramon, situate at a height of some 1,100 metres above sea level, in the central mountainous district of the country, proved itself a veritable Eldorado for the Orchid hunter. It was in this neighbourhood that Señor Andres made his interesting discoveries. The Orchid Flora of this district is almost inexhaustible, and every new collection brings its surprises. Dr. Schlechter had long wished to procure a large collection, and he eventually obtained it through Prof. Brenes. This collection was enhanced by the discoveries of Don Guillermo Acosta, which contained much of importance. Prof. Brenes had turned his attention especially to the small morphological forms which are often of interest, and on that account it is easily seen why his collection contained so high a percentage of novelties. The Pleurothallideæ are very strongly represented, as, for example, in the genera Stelis, Pleurothallis, Lepanthes, and Barbosella. Elleanthus also shows interesting types, not only new species, but also the long-lost E. caricoides, Nash. The abundance of new Epidendrums is surprising. There are types which were previously unknown to exist in this locality.

While space does not permit of entering into further details, Dr. Schlechter says he cannot omit to mention that the collection is one of the most complete that has been received from Costa Rica during recent years. The preparation of the specimens has been good throughout. Some varieties, on account of their rariety, are unfortunately somewhat scantily represented, particularly those which produce but few flowers. To remedy this defect, Prof. Brenes frequently included additional flowers. A great advantage possessed by the Brenes collection is that almost all the specimens have their origin recorded, also the precise elevation and the situation where they were found, as well as a description of the colours. We are thus enabled to form an accurate picture of the plant concerned, a matter which many former collectors considered superfluous.

In order that he may not be guilty of negligence, Dr. Schlechter has copied the labels exactly and also added the habitat of every species. He hopes that other collectors will follow the example of Prof. Brenes, and by adding similar explanations do much to further our knowledge of Costa Rican Orchids. Dr. Schlechter concludes his prefatory remarks to Part III. of this book by stating that it has given him great pleasure to dedicate to this enthusiastic collector not only many novelties, but a characteristic new genus, Brenesia. It is to be hoped that the result of this, his first collection of Orchids, will induce Prof. Brenes to continue his work with enthusiasm, for every new collection shows how rich must be the existing Orchid Flora of Costa Rica.

IV. NEW AND RARE ORCHIDS FROM COSTA RICA.

In this section Dr. Schlechter describes new and rare Orchids found by various collectors in Costa Rica, including those of Mr. A. Tonduz.

Particular attention is called to a small collection received from Don Guillermo Acosta. It came in two consignments from the neighbourhood of San Ramon. Among the plants were many interesting new species, necessitating the formation of two new genera, namely Acostæa and Ramonia. Don Guillermo Acosta has earned through these comparatively small, but nevertheless valuable collections considerable merit in the investigation of the Orchid Flora of his native land. It is expected that other novelties will be obtained in the near future. Maxillaria Acostæi and M. ramonensis are two new species named in honour of this collector and his country.

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EPIDENDRUM STAMFORDIANUM.—Discovered by Mr. Ure Skinner on the shores of Lake Isabel, near San Mico in Guatemala, in 1837, and sent by him to Mr. Bateman, in whose collection at Knypersley it flowered in the spring of the following year. It was named in compliment to the Earl of Stamford. The variety Wallacei has stems and the inflorescence shorter than in the Guatemalian type.

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CŒLOGYNE CORRUGATA.—A species well distinguished by its curiously wrinkled pseudo-bulbs. First collected by Dr. Wight, about the year 1845, on the Neilgherry Hills Southern India, flowering in August and September, and where it was subsequently found by Thomas Lobb, but who failed to send home living plants. It was first cultivated in England in the Royal Gardens at Kew in 1863.

ORCHIDS AT ORCHIDVALE, MASS., U.S.A.

THE collection of Albert C. Burrage, Esq., President of the American Orchid Society, needs no introduction to readers of the *Orchid Review*. The wonderful effort made by him at Boston last spring, when the Society held its great Show there, is still fresh in our minds, and the admirable notes by "A.G.E." (*Orchid Review*, xxx., pp. 277-8), give some idea of the extent of this as a private collection and its composition. It is not my purpose to attempt a detailed account of the plants, nor even of the houses, but a word or two written round this collection may be of interest.

The first thing that strikes one accustomed to private collections on the European side of the Atlantic is the space occupied by species, which have the advantage of producing their flowers at definite periods, and when grown in large enough numbers and of productive health give a wealth of bloom. It is this "mass of effect" that Mr. Burrage delights in. Many plants of Cattleya labiata were in flower and arranged close together on a slope in one of the houses, making a gorgeous blaze of colour.

Apart from the species, Mr. Burrage has endeavoured to make his collection complete in hybrids, which include many superior varieties, considerable numbers being in flower.

Mr. Burrage is restlessly interested in the culture of his plants, and is unmindful of precedent in his experiments. When I was there he was arranging to have the Cymbidiums placed right down on the floor, and the pipes for heating placed in the roof. Cymbidiums are terrestrial and the sun warms them from above, it is argued. It will be interesting to see the outcome of this new departure, but I doubt not that the Cymbidiums will do well. These plants are among the least exacting of the order, and there is no excuse for doing them badly. They require to be well drained, generously potted, but not overdone, and not overwatered. Large specimens that show signs of degenerating should be broken up and each piece potted separately. All large specimens of Orchids, whatever their nature, come to this end eventually. Cymbidiums do not like a high temperature, but they stagnate in a low one; 50-55 degs. Fahr., is a safe winter warmth. Because a plant survives in a low temperature, and may even submit to it in its native habitat, is a seductive argument, but plants grown under glass forget faculties that they or their ancestors enjoyed in the open air. Mr. Burrage's Cymbidiums were in a good condition. and it is a laudable desire to make good better.

When at Orchidvale, I picked out three things to chat about: the Vanda cœrulea, the Odontoglossums and the Phalænopses. Mr. Burrage has had a division partitioned off the end of one of the houses for the Vanda cœrulea, and was giving them a generous amount of air from top and side ventilators.

ODONTOGLOSSUMS FLOWERING IN THE COLLECTION OF ALBERT C. BURRAGE, ESQ., ORCHIDVALE, MASS., U.S.A.

The plants, 150 in number, were in excellent condition, some of them five feet or more in height and well leaved, while some twenty were in spike or flower. Two varieties were notably fine in shape and size, and the spikes carried 19 and 21 flowers respectively. Another was an exceptionally fine blue variety.

Vanda cœrulea is a charming Orchid, but with a bad reputation as a grower. M. Leon Perrin, of Clamart, France, is one of the most successful cultivators of this plant. He reaps a fine harvest of flowers from it year after year, and his plants go on indefinitely and improve. I doubt if there is another Orchid grower who meets with quite equal success. There is perhaps something in locality, but there is an elusive something in the treatment that most cultivators miss. I remember the Blenheim Vandas when they were splendid, and I also remember their eventual decline. What can be done at Clamart is a fine encouragement, and there is no more worthy Orchid to master. Mr. Burrage's houses are in beautiful air, near the sea, and should produce excellent results with all Orchids that the summer heat does not exhaust. I hope these will embrace Vanda cœrulea, despite a reputation so fickle. If I were he, with so much resource in glass houses, I would try half my plants under moister and closer conditions. Vanda cœrulea grows exposed to much sun and wind, and the temperatures drop at certain seasons to very low figures. I do not think Mr. Perrin is so lavish with air as Blenheim was, or as Mr. Burrage is.

I now come to the Odontoglossums and Odontiodas, which hitherto have not been considered completely successful in the parts of the United States where they have been tried, though there are doubtless localities in so great an area where they would be completely at home, say in the higher altitudes. I saw Mr. Burrage's plants just after the summer heat, when, if distressed, they would be looking their seediest, but the reverse was the case. This desirable result had not been attained, however, without some modification of the house in order to obtain coolness. The house, 75ft. by 18ft., was sunk three feet, and the bottom ventilation obtained through shafts passing over water when entering the house. The shading is formed by lath roller blinds, one blind dropping from the ridge while another is run along at right angles over this. In the hottest weather water is allowed to trickle down the roof. By these means the temperature in the house is kept 10 to 15 degrees lower than that registering outside. With a practical test of this kind having been made, the lesson should not be lost by others who contemplate growing Odontoglossums and their hybrids in America, for the outlay will be fully repaid in the well-being of this important section, which, year by year, is becoming richer and more wonderful as the best qualities of several genera are combined and displayed in one plant.

I doubt if one can hope for much success in raising these temperate plants from seed in the United States, as the heat, even with all conceivable amelioration by contrivances such as described, would likely be too much for the plantlets after germination, but a stout-hearted and skilled grower might win through.

Odontiodas are recognised as having a constitution better fitted to withstand heat, and these are too desirable in themselves to be left out of any collection if it can be proved that they will succeed. When a plant does not do well we are all too ready to put the blame on the locality, the house, or, may be, the climate, when the routine treatment is really at fault. So Odontiodas will likely be well grown and indifferently grown in America, as elsewhere. Mr. Burrage's house was full of healthy plants that were well-leaved and gave evidence of being thoroughly understood and well cared for.

The Phalænopses are contained in two lean-to houses that run in to one another, one facing north and the other east. These contain over 2,200 plants, mostly of P. amabilis and Rimestadiana, but including some Schilleriana, 50 Lueddemanniana, and a few Esmeralda, not forgetting one Veitchii. The plants were suspended, and, with scarcely an exception, were in perfect health. Considering that these plants had had a pretty fair amount of torturing through being torn out of the pans to be fastened on to trees so as to give a realistic effect at the Boston Show this "come back" is something of a triumph and an object lesson in superior culture and understanding. These plants will be worth seeing when in flower.

Mr. F. W. Pocock, superintendent to Mr. Burrage, has the Orchids under his charge, and is to be complimented on their fine condition. The charge is a big and difficult one, and if the collection is to be maintained at the top of its form he will need the help of trained subordinates possessing the Orchid mentality. As an exhibitor, Mr. Pocock has had notable successes, winning six gold medals at Cleveland, Boston and Providence, Rhode Island. J. M. B.

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Spathoglottis Fortunei.—First sent by Fortune in 1844 from Hongkong to the Horticultural Society of London, in whose garden at Chiswick it flowered in January of the following year.

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Vanda lamellata.—The typical V. lamellata was first sent to Messrs. Loddiges from the Philippine Islands by Cuming in 1838, but it is now rarely seen in cultivation. The variety Boxalli, which has flowers of brighter and more showy colours, was introduced by Messrs. Low & Co. in 1879, through the collector whose name it bears. Both the type and its variety grow on trees in the hot damp valleys in the neighbourhood of Manila.

CULTURAL NOTES.

MASDEVALLIAS.—There are two seasons when Masdevallias may be re-potted; one of these is during the present month, or before flowering, and the other from June to July, or after flowering. I prefer the former. Many of these may therefore now be done, which will relieve the work to some extent in the busy months of June and July. M. Harryana and its numerous varieties, M. ignea, and M. Veitchiana, are now just becoming very active, emitting new roots in great profusion, which quickly take hold of the new compost, and thus the plants soon become re-established, and look none the worse for the disturbance. As a compost none is better adapted for the free growth of these than that advised for Cypripediums. The draining of the pots and the method of potting should also be performed in the same manner. Lean also to small pots, for the plants can be better secured and are much more likely to grow well than if having too much pot room. Throughout the winter up till now Masdevallias will have been receiving but little water, but now, after re-potting, the compost should be kept just moist enough to encourage root action. The warmest end of the cool house, or a cool moist part of the intermediate house suits them well during winter, but during summer the former is decidedly the best.—*H. A. Burberry, February*, 1899.

East Indian House.—Plants of the beautiful winter-blooming Angræcum sesquipedale will soon be pushing from their stems a number of young fleshy roots; should any plant require more root space it may receive attention at once. It may be that some have lost their lower leaves, leaving the stem bare; if so, these may be cut down and re-potted. The ordinary pot is preferable to baskets, as the plants are more easily managed, and the roots less disturbed than when baskets are used. When re-potting, pick out all the old decayed moss, and if any roots are clinging to the sides of the pot, carefully ease them by using a sharp, thin pocket knife. Place the plant in the centre of the pot, put some few large crocks at the bottom, then replace the roots, and in so doing, work in among them clean, picked sphagnum moss and crocks—about one-half of each—fill to within an inch of the rim, pressing down moderately firm, and finish off with good living sphagnum. Any of the large fleshy aërial roots that are long enough may be carefully brought down to the surface and secured by a peg. After re-potting no water should be given for a few days, when they should have a thorough soaking. The moss on the surface will soon become dry again; this should be moistened over with a fine rose. Avoid keeping the plants in a saturated condition, or spot will quickly make its appearance; but when plants require water give a good soaking, especially in the summer months, after which the quantity may be gradually reduced. The present is a suitable time to repot or top-dress any members of the Aêrides family, most of which are inmates of this house. The above instructions will suffice for any member of this beautiful genus.—*J. Mackay, February*, 1903.

DAMPING AND VENTILATION.—I may say that the latter should still be done with a considerable amount of care, and more especially so in the Intermediate and Warm departments. A good deal of harm may result from a too liberal use of the top ventilators at this particular season, when cold searching east winds are prevalent. It is the bottom ventilators which should be mostly worked at present, giving only a chink on top when it seems absolutely necessary for the prevention of an overheated atmosphere. Apart from these trying cold winds, and especially when the outside weather is moist and mild, as it frequently is, there is a great advantage gained by keeping a chink on the top almost continually, and particularly on houses which are very tightly glazed, for it conduces to a continual, though steady, circulation of fresh air.—*H. A. Burberry, March*, 1899.

THUNIAS will now require repotting. The most convenient way is to plant six or seven bulbs about three inches apart, in a ten-inch pot, which should be half-filled with drainage, using loam, peat, and moss in equal proportions. Choose a light position in the hottest house and as close to the roof glass as possible. The successful blooming of these plants depends largely upon the amount of light they get. Each bulb will require a stake to hold it firm. If the bulbs are very long, bend them over and tie them down, by which means the young growths may be brought near the light. When the growths have started well, and are rooting freely, give abundance of water, and an occasional dose of weak liquid cow manure. Thunias may be easily propagated by taking off the back bulbs, cutting them at the joints into pieces about six or eight inches long, and inserting them as cuttings into a mixture of sphagnum and silver sand.—*W. H. White, March*, 1893.

CŒLOGYNE CRISTATA.—This species, with its varieties, will soon require repotting or top-dressing, the former being preferable for plants that are very crowded. They do well potted in the Cattleya mixture. Any that only require top-dressing should have as much of the old material picked out as possible, and then be re-surfaced and pegged down, so that all the young roots can get to the compost. I do not think there is any Orchid which gets more ill-treatment than this Cœlogyne. One sees it grown in all sorts of corners; stove, vinery, greenhouse, in fact, any out-of-the-way place is its general home, yet it will always flower well if it is placed where it can get a fair amount of sunlight and air. It seems to be a favourite when in flower with everyone.—*W. H. Morgan, March*, 1908

DENDROBIUMS.—Many of the deciduous species and hybrids have their flower buds well advanced, and may now be placed in a little more heat. They should receive more warmth and moisture, as soon as the flower buds begin to separate from each other. As these pass out of flower, growth will be prominent, and any that require re-potting may at once be done, using small receptacles where this can be done, for Dendrobiums dislike any excess of material about their roots. Plenty of crocks should be used for drainage, for a large quantity of water is required during the growing season. The compost should consist of one part good fibrous peat, and two parts of chopped sphagnum moss, with a quantity of finely broken crocks, or coarse sand added. The plants should be slightly elevated above the rim, and secured to neat sticks until the roots get a good hold of the compost. Apply tepid rain water, and during fine weather the plants will greatly benefit by a slight syringing overhead once or twice a day.—*J. Mackay, February*, 1902.

Calanthes of the vestita group will soon be on the move again, and may be re-potted before the appearance of new roots. A good compost is necessary, and may consist of one-half good fibrous loam, one-fourth leaf soil, and the remainder finely chopped moss, with a good sprinkling of coarse silver sand or finely broken crocks; the whole being well mixed together. The compost being prepared, should be laid a few days prior to use in a suitable place to get warm. Previous to re-potting, shake out all the old soil, and shorten back the dead roots to about an inch. This portion will help to keep the plants steady until new roots obtain a firm hold of the compost. Clean pots should be used, the sizes varying according to the discretion of the cultivator. I practice potting them singly, using five or six inch pots for the strongest bulbs, and proportionately smaller ones for the others. Give good drainage, the pots being rather more than half-filled with clean crocks, and placed upon this a layer of the most fibrous part of the compost, in order to prevent the drainage becoming choked. In filling the pots the soil should be shaken down moderately firm, to within an inch of the top; then place the plant on the surface, with additional soil added, so that the base of the bulbs is just covered. This will leave about half an inch of space, which will allow of a little top dressing of good fibrous loam when the plants become established. After potting place them in their growing quarters, which should be a light position near the glass in the warmest house. Give no water at the roots for a few weeks, merely damping the stage, and syringing between the pots. As the young growths advance a slight sprinkling may be given, doing this with care, especially before the young roots have a firm hold. If too much water be given the young growths will quickly turn black. When well rooted abundance of water will be required, and at each alternate watering weak liquid cow manure will be beneficial. I do not hold, however, with any excess of manure, for more often than not this leads to that dreaded disease, black spot, and prevention is always better than cure.—*J. Mackay, March*, 1903.

THE LATE MR. DE BARRI CRAWSHAY.

It is with deep regret that we record the loss of Mr. de Barri Crawshay, who died at his residence, Rosefield, Sevenoaks, on December 26th, 1924, at the age of 67. He was the son of the late Mr. Francis Crawshay, one of the pioneers of the Welsh coal and iron industries, who retired in 1862 and moved to Sevenoaks. Mr. de Barri Crawshay married in 1878, at the age of 21, and two years latter commenced the study of Orchids, a subject in which he soon became keenly absorbed. The interesting story of his early experiences has been so recently published as "Reminiscences of my Orchidic Life" (*Orchid Review*, vol., xxx, pp. 293-299, 327-334), that we need not repeat the details. An illustrated account of his collection

THE LATE MR. DE BARRI CRAWSHAY.

appeared in the *Orchid World*, vol. I, pp. 176-183. For many years he made Lælia anceps and its varieties a leading feature of his collection, and only parted with this section when he realised that the popular Læliocattleyas would surpass them in the amount of flower production. To the R.H.S. Conference on Genetics, 1907, he contributed a valuable paper on Hybrid Odontoglossa, and to the *Orchid World* (vol. I, pp. 75-84), an account of the Odontiodas, which, at the time, was considered exceedingly complete and accurate. Mr. Crawshay was one of the earliest members of the R.H.S. Orchid Committee, and rarely missed a meeting until his retirement in 1921. Although Mr. Crawshay will best be remembered by our readers in connection with Orchidology, he was a man of widespread interests, one of his chief subjects in recent years being the study and collecting of the flint implements of prehistoric man.

◆

GRAMMATOPHYLLUM SPECIOSUM.—A gigantic specimen of this Orchid has recently been discovered by one of Messrs. Sanders' collectors, who states that the plant formed a perfect circle round the stem of a 24-inch Ironwood Tree and spread over a circumference of 25 feet, with hundreds of racemes of flowers. This wonderful plant was unfortunately left in the virgin forest, as its discoverer calculated that the cost to move it to the coast and ship it to Europe would have been prohibitive.

◆

CYPRIPEDIUMS.—At the commencement of their growing season, which, as a rule, takes place after the flowers fade, the plants should be examined as to pot room. None of them care to be long in a pot-bound condition, and when any re-potting is necessary it is advisable to make allowance for future development. They should be potted in a mixture of sphagnum moss and fibrous peat in about equal proportions, mixing with it a moderate quantity of broken crocks. The pots should be filled to about one-third with drainage. When re-potting place a thin layer of sphagnum over the crocks to prevent any particles of soil being washed down among the drainage. The base of the plants may be on a level or a trifle above the rim of the pot. When the plants have become re-established, and during their growing season, they must be afforded copious supplies of water, and during the hot summer months a slight dewing overhead in the morning and evening is very beneficial. Keep the plants well up to the roof glass on the shady side of the house and at all times protect them from the direct rays of the sun, as a very slight exposure to strong sunlight often causes the foliage to turn yellow. All the Cypripediums are more or less liable to the attacks of red-spider and thrips.—*Gardening Illustrated*, January 24th, 1925.

NEW HYBRIDS.

NAME.	PARENTAGE.	EXHIBITOR.
Brassocattleya Goliath	Bc. Thorntonii × C. labiata	Mons. Chassaing.
Brassolæliocattleya Nerissa	Bl. Helen × C. Mendelii	Stuart Low.
Cymbidium Camilla	Doris × Lowio-grandiflorum	Cowan.
Cypripedium Armanent	Armistice II × Maudiæ	Mrs. Bruce and Miss Wrigley.
Cypripedium Bucharilis	Buchanianum × aureum	P. Smith, Esq.
Cypripedium Claymore	Vashti × Thisbe	Flory & Black.
Cypripedium Chloe	Baron Schröder × Mrs. W. Mostyn	Cowan.
Cypripedium Cluny	Actæus × Dicksonianum	Flory & Black.
Cypripedium Dr. Clayton	Charlesworthii × Gurkha	H. J. Bromilow, Esq.
Cypripedium Eros II	Queen Alexandra × Alcibiades	,, ,,
Cypripedium Golden Wren	Glorita × Moonlight	Flory & Black.
Cypripedium Imshi	Vandyke × Peter Pan	Mrs. Gratrix.
Cypripedium Llewellyn	Hanmer Christopher × Goliath	Keeling.
Cypripedium Madras	Fairrieanum × Gaston Bultel	H. J. Bromilow, Esq.
Cypripedium Olympia	Olympus × Leander	P. Smith, Esq.
Cypripedium Paladin	Reginald Young × Fairrieanum	Mrs. Bruce and Miss Wrigley.
Cypripedium Sandru	Bucharilis × Mrs. F. Sander	P. Smith, Esq.
Cypripedium The Provost	Alcibiades × Purple Emperor	Flory & Black.
Cypripedium Thomer	Lord Wolmer × Thora	P. Smith, Esq.
Cypripedium Victoria	Comorin × Victor Hugo	Mrs. Gratrix.
Cypripedium White Star	niveum × Alcibiades	C. Cookson, Esq.
Cypripedium Worsleyi	Hestia × Lady Dillon	H. Worsely, Esq.
Læliocattleya ardentissima	C. Dowiana aurea × Lc. Martinosa ...	Pauwels.
Læliocattleya Heloise	Lc. Labiosa × C. Enid	Stuart Low.
Læliocattleya Helvetia	St. Gothard × Queen Mary	Sanders.
Læliocattleya Rubencita	Carmencita × Rubens	McBean.
Læliocattleya Sunbelle	C Thora × Lc. Serbia	,,
Odontoglossum Elizabeth Midgley	Queen Alexandra × cirrhosum	Mansell & Hatcher.
Odontoglossum Eve	crispum × Pallas	Mrs. Bruce & Miss Wrigley
Odontoglossum Titan	amabile × l'Empereur	A. Hanmer, Esq.
Sophrolæliocattleya Pamela ...	Lc. bletchleyensis × Sc. warnhamensis ...	Stuart Low.

CYPRIPEDIUM MRS. ELEY.—At the meeting of the Royal Horticultural Society held on January 13th, Mr. G. F. Moore exhibited Cypripedium Mrs. Eley var. Derrick (Commodore × Christopher var. Grand Duke Nicholas), when it received an Award of Merit. As Cypripedium Mrs. Eley had previously been recorded as a hybrid between Christopher and Warrior, we have been informed by Mr. G. F. Moore that the Award of Merit plant was raised by him, and that the parentage given (Commodore × Christopher) is undoubtedly correct, all records having been most carefully kept.

* * *

CHYSIS BRACTESCENS.—This is a noble Orchid when its flowers are produced in large trusses, which is the case only when the pseudo-bulbs are large themselves. It is an easy species to succeed with when newly imported, but, like some few others, will deteriorate if not given a treatment meeting its requirements in a reasonable degree. It will do well and last a longer period treated as an intermediate Orchid, but does far better eventually if placed with the Dendrobiums when making its growth, and resting with them afterwards. It is best accommodated in suspended pans, and delights in a liberal supply of water when growing.—*J. Mackay, June*, 1905.

ONCIDIUM ACROBOTRYUM.

THIS pretty dwarf Oncidium was originally named by Klotsch in 1855, but was later reduced by Lindley to a synonym of O. Harrisonianum, from which it apparently cannot be distinguished when out of flower. The peculiar greyish, fleshy leaves and pseudo-bulbs are characteristic of both species, which grow together on the Organ Mountains.

In 1924, Messrs. Sanders, of St. Albans, obtained a small consignment of Oncidiums, and distributed them under the name of O. Harrisonianum. On flowering, it was noticed that several of the plants did not conform with O. Harrisonianum in floral structure. A specimen sent to Kew was there determined as O. acrobotryum.

Though not comparable with O. Marshallianum, Rogersii, crispum, etc., both species are well worth growing. Their neat habit and erect, branching panicles of numerous brightly coloured flowers render them decidedly attractive.

O. Harrisonianum is distinguished by the slightly divided, spreading, rounded front lobe of the labellum, and by its pulvinate crest, which somewhat resembles that of O. divaricatum, O. pulvinatum, etc. In O. acrobotryum the crest is white, fleshy and tumid, while the front lobe of the lip is broadly triangular. Both species resemble each other in general coloration, viz., reddish spots and markings on a bright yellow ground, but of the two, O. Harrisonianum appears to be more brightly coloured.

The re-appearance of O. acrobotryum is interesting, as it has not been recognised in gardens for many years. Possibly odd plants may have been introduced and sold and grown as O. Harrisonianum, but no record has been noted. E.C.

PHALÆNOPSIS LEUCORRHODA

THIS natural hybrid between P. Aphrodite and P. Schilleriana appeared with Messrs. Low & Co. in 1875, having been imported during the previous year. It is a native of the Philippine Islands, and is only rarely met with in that country. Under cultivation it is a very rare plant. The leaves are large, purplish beneath, generally freckled with grey, but not so much as in P. Schilleriana, the grey frequently disappearing with age. The flower spike usually attains a length of 2-3 feet, being arched in habit, and branched in the case of vigorous specimens. The individual flowers are white, more or less stained with rose-purple on the basal half of the sepals and petals; the labellum has the side lobes spotted with red and with a yellow stain on the front margin, the front lobe with a yellow stain at the base. Shortly after the appearance of the above plant, another hybrid of similar parentage was described as P. casta, but it subsequently became known as a variety of P. leucorrhoda. In the spring of 1890, P. Cynthia appeared in the collection of Sir Fredk. Wigan; it exhibited similar parental characters and on that account was soon afterwards classified as a variety of P. leucorrhoda. So long as a sufficiently high temperature can be maintained, as well as much atmospheric moisture, the cultivation of the various Phalænopsis is by no means difficult. Some of the finest examples have been seen in suburban gardens, although fog generally spoils the flowers.

PHALÆNOPSIS LEUCORRHODA.

ROYAL HORTICULTURAL SOCIETY.

January 13*th*, 1925.

MEMBERS of the Committee present:—Frederick J. Hanbury, Esq. (in the Chair), Messrs. Gurney Wilson (Secretary), Clive Cookson, G. F. Moore, S. W. Flory, C. H. Curtis, J. Cypher, A. Dye, J. E. Shill, H. T. Pitt, H. H. Smith, A. McBean, John Cowan, T. Armstrong, F. K. Sander, E. R. Ashton, J. Wilson Potter, Stuart Low, and C. J. Lucas.

FIRST-CLASS CERTICATE.

Cypripedium Gwen Hannan var. Field Marshal (Florence Spencer × Christopher var. Grand Duke Nicholas), from G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, Glos. One of the finest forms of this well-known hybrid. Flower of immense size, the broadly developed dorsal sepal pure-white, except for a small greenish area at the base, and with a few lines of rose-purple dots; petals and labellum honey-yellow, lightly tinged with brown.

AWARDS OF MERIT.

Cypripedium Stamperland var. Alpha (Glorita × Christopher var. Grand Duke Nicholas), from R. Paterson, Esq., Cathcart, Glasgow. A finely formed flower, well above the average size, the large dorsal sepal greenish, with white upper part, and evenly marked with purple spots; labellum large, and, with the petals, yellowish, stained with crimson-rose.

Cypripedium Worsleyi (Hestia × Lady Dillon), from H. Worsley, Esq., Stonehouse, Haslingden, Lancs. A large flower having the dorsal sepal evenly and boldly spotted on a white ground, the base being greenish; petals and labellum broadly developed, the former with brownish-red markings.

Cypripedium Mrs. Eley var. Derrick, from G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, Glos. Dorsal sepal orbicular in shape, the lower part greenish, the upper white; petals and labellum yellowish, marked with brown lines and spots.

Læliocattleya Pepita var. splendens (St. Gothard × Colmaniana), from Messrs. Cowan & Co. A promising hybrid which will improve considerably when matured. Flowers compactly formed, of deep mauve-pink colour, the labellum purple and with the margin crisped.

CULTURAL COMMENDATION.

Cypripedium Leeanum Clinkaberryanum, from Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common. An attractive example of this well-known and popular Cypripedium, carrying 16 flowers on tall stems.

Other Exhibits.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, Glos. (gr. Mr. W. H. Page), was awarded a Gold Medal for a superb exhibit of choice Cypripediums, the plants being in excellent condition and showing their immense flowers to great advantage. In the centre was Cyp. Lily Kennard, with four flowers, and in other places several varieties of Gwen Hannan, with immense flowers, also the Conyngham variety of Cyp. Memoria F. M. Ogilvie, with a large rose-flushed dorsal sepal. Cyp. Chrysostom var. Lord Lambourne was included, along with the variety Alfred Fort, and there were excellent examples of Cyp. Mrs. Eley and many others for which the Chardwar collection has long been famous.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N., received a Silver-gilt Medal for a meritorious exhibit, in the centre of which was Miltonia Wm. Pitt, with rose-flushed segments, also Odontonia Langowoyi, with a spike of nine flowers, and Epidendrum Endresio-Wallisii, with numerous flower spikes. Cypripediums included Nellie Pitt, the Haddon House variety of Desdemona, and Triumphans, while Odontoglossums were represented by eximatum, and the superb Purple Emperor, with three large flowers of intense crimson-purple colour, and to which a F.C.C. was awarded May 23rd, 1922.

Messrs. Cowan & Co. received a Silver Banksian Medal for a prettily arranged group, including fine varieties of Brassocattleya British Queen, Cattleya *Zora* (Percivaliana × Gaskelliana), with a spike of four flowers, making a useful winter-blooming plant. Along the back were well-flowered examples of Oncidium splendidum, and in front the new Cypripedium Chlœ (Baron Schröder × Mrs. W. Mostyn), as well as Cymbidium Camilla, a pleasing novelty produced by crossing Doris with Lowio-grandiflorum, and Læliocattleya Hassalli alba.

Messrs. Cypher & Sons were awarded a Silver Banksian Medal for an exhibit of numerous Cypripediums, conspicuous examples being Bridgei, Nydia, Actæus, Hercules and insigne var. Snow Queen. Several pretty forms of Calanthe Bella were also staged, as well as Oncidiums and Cochlioda sanguinea.

Messrs Flory & Black exhibited three varieties of Cypripedium Golden Wren (Glorita × Golden Glory), of bright yellow colour, the dorsal sepal having minute spotting and a white upper margin. Also Cyp. Claymore (Vashti × Thisbe), very pretty, and Cyp. The Provost (Alcibiades × Purple Emperor).

Messrs. Sanders staged Cypripedium insigne var. Pavlova, of clear light greenish colour, Cyp. Jura, with bold spotting and Cyp. beechense. Brassocattleya Dietrichiana var. ardens, of rich bright purple colour and Calanthe Butterfly were also included.

Messrs. A. J. Keeling & Sons showed Cypripedium Amita, of light greenish-yellow colour, and with broadly developed petals, also Cyp. Grey Friar, roundly formed and delicate colour, Cyp. Charmian and Cyp. Nirvana, the latter having a large white dorsal sepal.

H. Worsley, Esq., Stone House, Haslingden, Lancs., exhibited Cypripedium Kethar, in which the dorsal sepal is flat, orbicular in outline and white.

R. Gerrish, Esq., Milford Manor, Salisbury, staged Odontioda Valda, a finely-grown plant with a spike of six rose-pink flowers, the segments blotched with darker rose.

J. J. Bolton, Esq., Claygate, Surrey, exhibited Odontioda Colinge var. Redstart, with a spike of ten large flowers blotched with reddish-brown, the tips whitish.

Messrs. Armstrong & Brown staged Cypripedium Mrs. Eley, the dorsal sepal white and spotted with purple on the central area.

Messrs. J. & A. McBean showed Odontonia Ceres (M. Bleuana × O. Lawrenceanum), with large flowers, yellow, marked with red-brown.

THE ORCHID CLUB.

OWING to inclement weather, frost and fog, the display of plants at the meeting of the Orchid Club, held on January 16th, was numerically below the average, yet many rarities of great excellence were exhibited.

Premier Diplomas.

Cypripedium Memoria F. M. Ogilvie var. majesticum. The flower showed considerable improvement in colour as compared with what it was when shown last season, the unique shape being retained; from Dr. Craven Moore.

Cypripedium Chrysostom var. Conyngham. A large, well-set and balanced flower resembling the Christopher parent; shown by Dr. Craven Moore.

Groups.

A. T. Cussons, Esq., (gr. Mr. F. Cookson) exhibited a large group of hybrid Calanthes, Cymbidiums and Cypripediums, including many interesting species.

Mrs. Hardy staged a few choice Odontoglossums, including Wodin, crispum and crispum xanthotes.

Dr. Craven Moore (gr. Mr. C. Branch) showed Cypripedium Corsair, Viking, Noel Hardy, Perseus Ruth, and many others.

Vernon Clay, Esq. (gr. Mr. S. Smith) staged a selection of excellently grown Cypripediums.

MANCHESTER ORCHID SOCIETY.

December 19th, 1924.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. A. Burns, A. Coningsby, J. Cypher, J. Evans, W. Giles, E. W. Thompson and H. Arthur (Secretary).

First-class Certificates.

Odontoglossum Titan (amabile × l'Empereur), a magnificent flower, sepals blotched and evenly marked with rich-brown, petals with markings of madder-brown, large flat lip; from A. Hanmer, Esq.

Odontoglossum Gorizia var. Princess Mary, the best of the type yet seen; from A. Hanmer, Esq.

Cypripedium Thomer (Lord Wolmer × Thora), a large well-shaped flower, the round dorsal sepal lightly spotted, labellum and petals richly shaded; from P. Smith, Esq.

Awards of Merit.

Cypripedium Sandru (Bucharilis × Mrs. F. Sander), and its variety aureum, Cypripedium Dora (Eve × Golden Morn), and Cypripedium Troimer (Troilus × Lord Wolmer); from P. Smith, Esq.

Cypripedium Titania (Charlesworthii × Mrs. F. Sander); from Mrs. Bruce and Miss Wrigley.

Odontoglossum Conqueror var. Ruby; from A. Hanmer, Esq.

Awards of Appreciation.

Cypripedium Shamus var. Terence (keighleyense × Earl of Tankerville), and Cypripedium Desdichado (Invincible × ?); from Mrs. Bruce and Miss Wrigley.

Cultural Certificates.

Mr. G. Giles, for Cypripedium Our King, C. Goliath, and C. Eileen Hanmer. Mr. A. Burns, for two plants of Dendrochilum glumaceum.

Groups.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), staged a group to which a Silver-gilt Medal was awarded, Cypripediums being well represented.

A. Hanmer, Esq., Buxton (gr. Mr. G. Giles), received a Silver-gilt Medal for a group of choice Cypripediums.

Messrs Cypher & Sons, Cheltenham, staged a group to which a Silver Medal was awarded, Cypripedium hybrids and many interesting seedlings being included.

Messrs Keeling & Sons, Bradford, staged Cypripedium Mrs Rickards, and other select hybrids Mr. J. Birchenall, Alderly Edge, showed Oncidium varicosum Rogersii and Cypripedium seedlings. Mr. J. Evans, Colwyn Bay, exhibited Cypripedium Olympus var. The Chairman, and seedlings. Mr. D. McLeod, Chorlton-cum-Hardy, staged Cypripedium J. Gurney Fowler.

January 9th, 1925.

Members of the Orchid Committee present: D. Losh-Thorpe, Esq. (in the chair), Messrs. A. Burns, A. Coningsby, J. Cypher, G. Giles, A. Keeling, E. W. Thompson and H. Arthur (Secretary).

FIRST-CLASS CERTIFICATES.

Cypripedium Worsleyi (Hestia × Lady Dillon), from H. Worsley, Esq. A large flower, the dorsal sepal 3½ inches across, green base, purple spots, broad white margin, broad petals lined and spotted with brown.

Cypripedium Kethar (Nirvana × Grovesianum), from H. Worsley, Esq. Large white dorsal sepal perfectly flat, 3¼ inches across, delicately spotted with brown, brown line down the centre, petals bronzy-yellow.

Cypripedium The Admiral (parentage unknown), from S. Gratrix, Esq. A large well-shaped flower, dorsal sepal 3½ inches across, heavily spotted with reddish-brown, the base green, petals 1¾ inches broad and with brown lines.

Odontoglossum Phyllis Giles (crispum Franz Masereel × Augustum), from A. Hanmer, Esq. A beautiful flower of fine shape, heavily blotched with maroon, large flat labellum.

Cattleya White Queen II, var. Empress (Trianæ × Irene), from P. Smith, Esq. Pure white sepals and petals, large round labellum with orange throat.

Cypripedium Chloris (Lord Wolmer × Mrs. H. Jenkins), from Messrs. A. J. Keeling & Sons. A well set round flower, dorsal sepal delicately spotted with pink, petals and labellum of reddish brown.

AWARDS OF MERIT.

Cypripedium The God Pan (Hermes × Satyr) vars. Bacchante, Excelsior, Silenus and Pipes of Pan, from Mrs. Bruce and Miss Wrigley.

Cypripedium Victoria (Comorin × Victor Hugo), and Cypripedium Imshi (Vandyke × Peter Pan), from Mrs. Gratrix.

Cypripedium Stamperland (Glorita × Christopher), from S. Gratrix, Esq.

Cypripedium Minotaur var. Bonita, from Capt. W. Horridge.

Odontoglossum amabile var. Haddon House, from P. Smith, Esq.

Oncidium varicosum Birchenallii, from Mr. J. Birchenall.

CULTURAL CERTIFICATES.

Mr. A. Burns, for Ada aurantiaca; Mr. G. Giles, for Odontoglossum Iphis.

OTHER EXHIBITS.

S. Gratrix, Esq., West Point, staged a group to which a Silver-gilt Medal was awarded. Mrs. Bruce and Miss Wrigley, Bury, received a Large Silver Medal for a fine exhibit; and similar awards were given to A. Hanmer, Esq., Buxton, and to Messrs. J. Cypher & Sons, Cheltenham.

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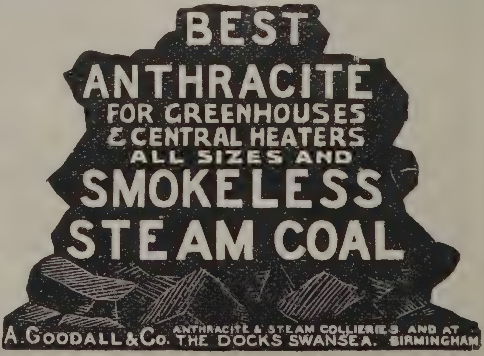

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To face p. 65

THE ORCHID REVIEW.

VOL. XXXIII.] MARCH, 1925. [No. 381.

NOTES.

ODONTOGLOSSUM SEEDLINGS.—With regard to the raising of Odontoglossums from seed, I may say that I have been successful in getting them to germinate. In one pot quite a few have leaves a quarter of an inch long. The seed was sown last April, there are quite a lot coming.—*John Owen, Linn Brae, Clarkston, Glasgow.*

ORCHID FUNGUS.—It may be of interest to learn that I have a few seeds of Lycaste Skinneri × Bifrenaria Harrisoniæ germinating with the fungus of Ophrys muscifera. All the other fungi which I tried with Lycaste seed and the Bifrenaria cross failed. I have not yet succeeded in cultivating the L. Skinneri root fungus, but am trying again.—*Wilhelm Schmidt.*

CHELSEA SHOW.—As the Chelsea Show of this year will extend through a period of five days, the Council of the Royal Horticultural Society has decided that Orchid exhibitors will be at liberty to remove special plants after the close of the Show on the second day, on the condition that they replace them with suitable plants in flower before the Show is open to the public on the following morning.

BULBOPHYLLUM MORPHOLOGORUM.—This plant is the subject of a coloured plate in a recent issue of the *Botanical Magazine* (t. 9033). It formed part of a considerable collection of Orchids from a mountain west of Chiengmai, North-west Siam, where it was discovered by Dr. C. C. Hosseus in 1904-5, and passed into the possession of Baron Max von Fürstenberg, where it flowered in 1908. It was originally described by Dr. Kränzlin in *Orchis*, May 1908, an illustration being also given. Rolfe described it under the name Bulbophyllum Dixonii, but as the number of the *Kew Bulletin* did not appear until November of the same year, Kränzlin's name retained priority. The name B. morphologorum was chosen because the species was supposed to be of particular interest to morphologists owing to the presence of a small lobule between the posticous and either of the lateral sepals, a peculiarity which induced him to discuss the morphological nature not only of the lobule but also of the receptacle or "inferior ovary" of Orchidaceæ generally. B. morphologorum belongs to a group of species which is known as the Careyana section. They extend from the Malay Peninsula through the Burmese mountain-ranges of the Nilgherries.

BRASSOCATTLEYA ALBION.—A beautiful variety of Brassocattleya Albion was in flower during the early part of the present year in the collection of D. Forbes Angus, Esq., Montreal. Mr. E. J. Seymour describes it as one of the finest white Brassocattleyas that he has seen, with the possible exception of Bc. Cliftonii albens, which was in the collection of the late Mr. J. Gurney Fowler. The perfectly-formed flower measured six inches in width from tip to tip of the petals, each of which was three inches broad, the sepals one inch broad, and the labellum three inches in diameter. With the exception of some yellow colour in the throat, all the segments were of the purest white. It was purchased from Messrs. Stuart Low & Co , who first recorded this hybrid in 1921. The parents of Bc. Albion are Bc. Thorntonii (B. Digbyana × C. Gaskelliana) and C. Trianæ, the two Cattleya species, of which white forms were used, being well known for their early flowering, a character that is strongly inherited. Brassocattleya Cliftonii is closely allied, being composed of B. Digbyana, C. Mossiæ and C. Trianæ.

ODONTIODA COLINGE VAR. RUTH.—This attractive variety of Odontioda Colinge has again flowered in the collection of Harry Worsley, Esq., Stonehouse, Haslingden, Lancs. It is the result of crossing Odm. crispum roseum with Oda. Coronation, but differs considerably from the general series of Cochlioda hybrids, yet possesses certain characters that determine its origin. All the segments are pure-white, the sepals with two or three confluent blotches of reddish-scarlet colour, the petals only occasionally so marked, but the labellum always has a large blotch of similar colour on its middle area. The general formation of the labellum indicates the inclusion of Cochlioda Nœzliana in the parentage, as also does the column and stigma. This distinct and pretty variety could be described as Odontoglossum ardentissimum with reddish spotting, without being far from the truth. Reversion to the parental species is frequently met with, and it is sometimes difficult to determine whether some hybrids between Odontoglossum and Cochlioda can correctly be described as Odontiodas, for instead of a blending of the characters of both genera there is marked separation. The difficulties in respect to the nomenclature of these unusual results again brings up the question : When does a descendant of Cochlioda cease to be an Odontioda ? and on which some notes appeared in the *Orchid Review*, 1923, p. 99.

THE FERTILISATION OF OPHRYS SPECULUM, O. LUTEA, AND O. FUSCA.

THE February issue of the *Journal of Botany* contains a most interesting article, by Colonel Godfery, F.L.S., on "The Fertilisation of Ophrys speculum, O. lutea and O. fusca." The method of pollination of the flower in the genus Ophrys has been a riddle, which, until recently, baffled al attempts at solution. The possibility of any attraction for insects other than nectar or edible tissue does not seem to have been even suspected, and, continues Colonel Godfery, it is due to the brilliant observations of Mons. M. Pouyanne, Conseiller à la Cour d'Appel, Alger, that at length an intelligible solution of the problem has been reached.

Ophrys speculum was the species which furnished the key to the puzzle. It is described as having the labellum like an oval convex mirror (hence the specific name) of a curious metallic violet-blue, glittering in the sun, with a narrow yellow border and a thick fringe of long *red hairs*. The short side lobes, similarly fringed, overlap the mid-lobe in the attitude of wings at rest. The thread-like dark red petals resemble antennæ, recalling those ot O. muscifera.

M. Pouyanne found, as a result of twenty years' observation, that O. speculum is visited by one insect only, Dielis ciliata, F. (Colpa aurea), a bee rather longer than a hive-bee, each segment of whose abdomen is fringed with long *red hairs*. Only the males visit the flowers, but if the labellum was cut off no notice was taken of such mutilated flowers. It is evident, therefore, that in some way or other the question of sex comes into play. Following these remarks Colonel Godfery explains matters by saying :—

"The lip of speculum bears a curious resemblance to the female of D. ciliata. The dense fringe of red hairs suggests the red-haired abdomen of the queen bee, the base of the lip looks like the thorax and head of an insect, and the dark-coloured filiform petals resemble antennæ. But what is the meaning of the mirror-like centre of the lip? M. Pouyanne asked himself this question in vain till he was able to observe the females of Dielis at close quarters. He found that when these are at rest, or crawling on the ground, with the wings half-crossed, the latter, which are strongly suffused with dark blue, present beautiful metallic reflections, especially in sunlight. It is difficult, he says, to escape the conviction that the mirror of speculum, with its sheen of violet-blue, corresponds to the reflections from the wings of the female, and contributes powerfully to attract the males, whose wings are whitish and transparent. The resemblance of the flower to D. ciliata is not close enough to deceive the human eye. The sight or insects is myopic and very inferior to ours—what is a superficial resemblance to us appears to suffice for them. The likeness need not be perfect, so long as certain salient points are suggested. The males have an imperious and irresistible sex-instinct, and in their eager haste to perform the task which is the supreme object of their lives, in the face of considerable competition, have no time for discrimination, and cannot afford to miss any chance of finding a mate."

With respect to Ophrys lutea, Colonel Godfery remarks that "Although this plant is widely spread in the environs of Alger, and is more abundant than O. speculum, it is extremely difficult to see any insect visit the flowers. In 1891 M. Pouyanne witnessed the pollination of O. lutea in a particularly favourable station, since destroyed. It was effected by small hymenoptera half the size of a bee, which placed themselves on the flower in what he calls the *reverse* position, *i.e.*, with the head directed *outwards*, and carried off the pollinia not on the head, but on the tail."

After detailing the varying percentages of seed-capsules found in different situations, we read that "on March 23rd, 1924, M. Pouyanne repeatedly witnessed small hymenoptera place themselves on the flowers in the reverse position, exactly on the dark markings (representing the female) in the middle of the bright-yellow lip, and carry off the pollinia attached to the upper part of the extremity of the abdomen. One insect which alighted in the direct position (head inwards) at once turned round and assumed the reverse position."

Ophrys fusca flowers during the months of January and February, hence its pollination is much more difficult to observe. However, M. Pouyanne once succeeded in doing so. "The insect assumed the 'reverse' position on the dark-coloured marking on the inner half of the lip, and plunged its tail into the cavity at its base, finally emerging with one pollinium on the top of the abdomen."

Last year, Colonel Godfery was successful in observing a similar occurrence. His account thereof is so interesting that we cannot refrain rom repeating it. He states: "On April 1st, 1924, I was looking at some Orchids which I had planted in the garden of the Hotel Continental at Hyères, when I saw a blackish insect alight on a flower of O. fusca. I knelt down, put on my eye-glasses, and saw the whole process clearly. He entered the helmet head first, but at once turned round, and, grasping the sides of the labellum with his feet, fixed himself firmly there, with his tail in the cavity at the base of the lip. He paid no attention to me, but all the time kept wriggling his body and moving his abdomen about in a very lively manner. He continued to do so for what seemed quite a long time, more than a minute, perhaps two minutes. When he finally withdrew his tail from the throat of the flower, it had two bright yellow pollinia on it."

This valuable contribution to our knowledge of the fertilisation of

Orchids by insect agency deserves to be read in its entirety, for only then can its importance be fully appreciated.

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CATTLEYA IRIS.

By JULIA A. STUCKEY, Unley Park, South Australia.

"CATTLEYA IRIS (bicolor × aurea). Very healthy plant, £1 1s." We read the words with a mental decision that we either have, or can buy, the Orchid without troubling to think of the wonder and mystery behind this familiar line in a sale catalogue. We have become so accustomed to hybrid Orchids that we cease to consider the extraordinary story which lies behind them.

In this instance, Cattleya bicolor is found growing on trees which thrive on the slopes of mountains in Southern Brazil, enjoying the climate of a region 2,000 feet above sea level, where the wind is laden with vapour from the Atlantic Ocean, even in the dry season, and the foliage of the trees is the only protection from the sun's rays. There this plant clings to the branches or rests in their forks, without robbing its host of any food, as do parasites. In partial shade, with a varying experience of heat and cold, C. bicolor produces its greenish brown flowers, with a purple lip, which is unique among Cattleya species in having but one lobe, leaving the column exposed, instead of covered by the side lobes, as is usual.

Far away, at least 2,000 miles, in Colombia, Cattleya aurea may be found in a similar elevated position on the mountains, growing on trees flourishing in the tropical atmosphere where the vapour from the Pacific Ocean is caught and condensed by the towering Andes, or even attached to rocks in the valleys which know the fierceness of an unclouded sun, as well as the chill of tropic nights. C. aurea belongs to the labiata group, remarkable for the beauty of their three-lobed lips, in many cases highly coloured, wonderfully curled or frilled. The plant is said to be merely a variety of C. Dowiana, but the whole Cattleya genus is peculiar in its localised distribution. A study of the maps in Veitch's *Manual of Orchidaceous Plants* shows that C. Dowiana is found in the mountains of Costa Rica, benefited by proximity to both Atlantic and Pacific Oceans, while C. aurea is found in a region 600 miles nearer the equator. It has flowers of a nankeen yellow, with lips of the richest crimson-purple. C. bicolor is two-leaved, and taller than C. aurea, which has one leaf to each pseudo-bulb; both have spikes of several flowers.

Long ago, collectors tore the original plants from their ancient homes, dried them to some extent, and carried their prizes to the nearest seaport for transportation to England. The story of Orchid collecting is full of interest, and, sometimes, of sadness, for loss of health, and even of life, has been the price paid by some courageous men who sought for new plants in little-known countries. In some such way these Cattleyas arrived in their English homes, where Orchids, which naturally grew some thousands of miles apart, were cultivated under the same conditions, if not actually side by side. Orchids are more submissive to modern methods of cultivation than most plants, though one cannot help thinking that they must sigh for the free air, the rainstorm, the unclouded sunlight filtered through foliage, and even an occasional chill, to which they have been accustomed.

In due course, C. bicolor and C. aurea bloomed, and it occurred to an expert cultivator to hybridise them. At this point we come upon the characteristic which differentiates Orchids from other members of the vegetable kingdom. In a primrose or daffodil, the reproductive parts of the flowers may be easily seen ; in Orchids all these organs are collected into the column, a stout fleshy process, right in the centre of the flower, bearing at its apex the little pollen masses, carefully covered by a protecting cap. When the pollen is ripe, it can be easily removed by an insect in search of food lifting this cap and carrying the sticky masses away on its back or head. The hybridist carefully transfers the pollen masses from one plant to the stigmatic surface of the other flower, to which they adhere by their sticky bases, and the pollination is ended. This stigmatic surface usually lies a little below the pollen masses and on the under side of the column. If all goes well, these masses send down minute tubes into the ovary at the base of the flower, through which the pollen is discharged fertilising the ovules, which in their turn become minute seeds. Twelve months may pass before the seeds of a Cattleya ripen, and can be sown on the preferred medium. Then five or more years may elapse before the seedlings bloom, during the whole of which period the greatest care and attention are required. Alas, in some cases the flowers are of very little beauty, and the hybridist is not adequately rewarded for his trouble and patience.

The product of the hybridisation of Cattleya bicolor and C. aurea was named Iris, and it is indeed "a thing of beauty," if not "a joy for ever." It has pseudo-bulbs of moderate height, each with two leaves, and the flower is a gorgeous array of old gold and rich crimson-purple. The mystery is, the colours are those of C. aurea, but the lip is that of C. bicolor, with the single lobe and exposed column. All growth is inexplicable, and surely one of its most impressive manifestations is in the work of hybridists.

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FLOWERS SPOTTING.—This generally occurs when the atmosphere is over supplied with moisture, brought about by damping down too late in the day, insufficient ventilation, or a cold night following a warm day. Plants in bloom require less atmospheric moisture.

ORCHIDS FLOWERING IN THE COLLECTION OF VISCOUNT M. IJUIN, TOKIO.

IMPORTING ORCHIDS TO JAPAN.

By Viscount M. Ijuin, Tokio, Japan.

IT was about thirty years ago when I imported the first Orchids from England and other countries. Since that time I have ordered some every year, chiefly by parcel post. I believe that I was the first person who imported Orchids by parcel post. Formerly, it took about sixty days, across the Indian line, and passing from the temperate zone through the tropics the plants on arriving here were mostly so weakened that they were scarcely better than withered. Consequently, we could not see their flowers until we had cultivated them for a few years. On the other hand, since they have been forwarded by the Canadian route by parcel post their condition on arrival here has been so much better that after a year or two's cultivation they have regained their former good condition and flowered splendidly.

But there was very often a fault with regard to rotting of the roots. This depended on the moisture in the root-ball when packing. During the last ten years I have instructed the merchants to dry up the root-balls before sending the plants, but my hope in this matter was never realised. To my great enjoyment, a merchant did follow my advice to dry the plants and now very good results appear. The other question concerns the air holes made in the sides of the box used for packing the Orchids. I suspected that these air holes allowed the harmful atmosphere and noxious insects in the ship's hold to damage the plants.

ORCHIDS IMPORTED FROM ENGLAND TO JAPAN IN THE COLLECTION OF VISCOUNT M. IJUIN, TOKIO.

Last autumn, I received from Messrs. Cowan & Co., Southgate, London, a box containing a few Cymbidiums, Brassocattleyas and Cattleya hybrids. They arrived entirely perfect, though it was forty days after they had been despatched. Two of the six Cymbidiums were so perfect that they were about to bloom. The Brassocattleyas and Cattleyas quickly recovered from their withered state, and after a period of two weeks had swelled out their bulbs. Among them, Brassocattleya British Queen opened its flowers in the month of December.

From the foregoing remarks it will be seen that Messrs. Cowan & Co.

have almost perfected the exporting of Orchids. The photograph, taken December 18th, 1924, will prove the splendid condition of the plants. The first plant in flower on the left-hand side is a Læliocattleya, the second Brassolæliocattleya Ajax, the third Brassocattleya British Queen, and the fourth Bc. Mad. Chas. Maron.

LYCASTE SKINNERI IN THE GATTON PARK COLLECTION.

AFTER the dark days of winter it is an enjoyable sight to see the early-spring flowers, and on that account those that open during the last few days of January and the early part of February are much appreciated. Sir Jeremiah Colman's collection contains a large number of Orchids which come into bloom during the first months of the year, and a visit to Gatton Park will more than prove how extensive is the range of species and hybrids that make the houses so attractive. Of considerable importance is the fine collection of Lycaste Skinneri, numbering over 200 plants and including many superb varieties of both white and coloured forms. Just how many plants of this species have been collected is more than any one dare state, but we do know that beautiful varieties have from time to time been selected from the various importations and carefully preserved. Most of these choice varieties have been procured for inclusion in the Gatton Park collection, whenever favourable opportunities have occured.

Opinions have differed and always will, as to which is the finest variety of any particular species, and it is so with regard to Lycaste Skinneri. It is more than probable that the varietal name delicata has been applied to several somewhat similar forms in days gone by, but the specimen under this name in the Gatton Park collection has flowers much larger than the type, the sepals slightly rose-flushed, the petals tinged with a deeper rose, and the labellum darker. Cobb's variety named delicata may also be mentioned. A flower of somewhat lighter tint exists in the variety delicatissima, which may be the identical plant figured under this name in Warner's *Select Orchidaceous Plants*, I., t 10, the sepals white tinted with light rose, the lip sparingly spotted with rose. The variety Enchantress is of model formation and of a delicate blush tint.

L. Skinneri armeniaca is another charming variety, the whole stock of which now seems to be in this collection. It originally appeared in Mr. Reginald Young's collection, Sefton Park, Liverpool, and obtained a First-class Certificate, March 11th, 1890, when shown before the Royal Horticultural Society as Young's variety. Subsequently it was figured in *Reichenbachia*, Ser. II, vol. 1, t. 18., as L. Skinneri armeniaca, in allusion to the apricot colour seen on the petals and lip. Under this last-mentioned varietal name, it was again exhibited before the same Society by Mr. F. M. Ogilvie, January 11th, 1910, when another First-class Certificate was obtained, a procedure that is against the rules of the Orchid Committee, but which probably occurred through the change in the name of the plant preventing the first occasion being noticed.

Among the white forms is one called Purity on account of its absolute whiteness, and another alba magnifica, with larger flowers. The typical L. Skinneri was first brought to England in 1841, and the first white variety appeared in 1856, when it was noted by W. H. Gower, then in charge of Messrs. Jackson's collection at Kingston. In 1860 the variety alba was figured in *Pescatorea* (t. 39), so it ranks amongst the earliest of white Orchids.

Of outstanding merit and well represented by several plants in the Gatton Park collection is L. Skinneri var. Mrs. Hamiton Smith, with flowers of immense size, yet hardly exceeding the normal degree of colour. In L. Skinneri hellemensis the colour is very intense for this species, while in the variety Purple Emperor the sepals are crimson-tinted and the petals of a deeper tone. Of the variety Gatton Rose there are several plants. Another form which always meets with appreciation is distinguished as Robin, and possesses the favourable character of being unusually free-flowering. L. Skinneri var. Pink Pearl, is a robust grower and bears a name that well denotes the character of its flowers. Among the many other varieties deserving mention are Imperator, Vivid, Beryl, Rainbow and Ernest Ashworth.

In comparison with other genera the hybrids of Lycaste are few, but nevertheless of interest. Flowering at the same time as the varieties of L. Skinneri are several specimens of Lycaste Balliæ (macrophylla × Skinneri), usually with over a dozen flowers on each, the colour being a deep crimson. Lycaste Mary Gratrix is of similar parentage. Lycaste Tunstillii is a natural hybrid with probably the same parentage as L. Lucianii, viz., lasioglossa × Skinneri, the sepals of this being rose-magenta, and the petals whitish. Lycaste lasioglossa also flowers during the same period, and in this collection is well exampled by a fine plant bearing eleven flowers, the rich yellow petals and the fringed labellum being marked features.

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ANGULOAS.—If Anguloas require repotting, let them be done before the new growths and flower buds, which appear together, get too far advanced. A compost of two parts each of fibrous loam and peat to one of moss, with an addition of some broken crocks and coarse sand, well mixed together, will be found suitable. They are cool-house Orchids, but when newly potted it is best to encourage new growths by placing them in the intermediate house, where they should remain until flowering, afterwards removing to the cool house again.—*J. Mackay.*

MISSOURI BOTANICAL GARDEN—ORCHID SHOW.

AN Orchid Exhibition was opened on November 30th, 1924, in the Missouri Botanical Garden. It resulted from the expedition into the Andes of Colombia during 1923, and of which an account was published in the *Orchid Review* (vol. xxxii., pp. 108-113, 137-143, 171-177). From a report of the exhibition in the *Bulletin* of the Missouri Botanical Garden we learn that on the opening day, between the hours of one and five o'clock, eight thousand people passed through the floral display house to view the debut of the Colombian Orchids in St. Louis.

During the latter part of October the outlook for the Orchid Exhibition was not very promising. The city at that time was enveloped in a dense smoke cloud, which continued for the entire week, and the Garden greenhouses were likewise filled with the fumes. The effect upon the Orchids was the loss of all the buds which had penetrated their protective sheaths, and the open Cattleya flowers soon succumbed, being unable to withstand the noxious atmosphere. The only remedy for overcoming this condition is the removal of the entire collection outside the smoke area. The smoke forced most of the florists out of the city many years ago, and the Garden is looking forward to the not-distant time when all of the growing houses may be located in the country. The Cattleyas, not being subjected to such adverse atmospheric conditions in their native home in the Andes, cannot be expected to adjust themselves to city life. Although the plants have been in St. Louis for only twelve months, the deposit of soot upon the leaves is such as to enable one with a moist finger to write upon the upper surface of the leaves.

The flowering Orchids were staged in the floral display house in both a natural and artificial arrangement. The natural arrangement suggests their epiphytic habit as seen growing upon trees in the tropics. Most of the plants, however, are placed upon tiers of stages for mass effect. The original arrangement of the show included a double stage through the middle of the house, with two four-foot walks on each side, but this left too little space for the accommodation of the Sunday crowds. By 2.30 o'clock on the opening day the house was filled to capacity, and an hour later the line of visitors extended back to the palm house, necessitating their waiting at least fifteen minutes in the cold before viewing the show. Consequently, the exhibit was entirely re-arranged the following day, the middle staging being removed and the plants banked on the north, east, and west sides, the centre of the house being left free for the accommodation of large crowds.

Of the five thousand plants imported from Colombia over one thousand were in bloom for the opening day. Most of the remaining plants were in bud in the growing houses awaiting their removal to the floral display house when in full bloom. Because of the large number of plants in reserve it was possible to prolong the show until February. Of the Cattleyas, the two main varieties shown were C. Trianæ and C. Schrœderæ. In collecting these varieties the hoped-for prize was a pure-white variety. It was consequently very gratifying for the Garden Authorities to find two plants bearing albino flowers in the first thousand to bloom. Among the typical mauve-coloured flowers there is the greatest variation, ranging from the lightest "pallida" to the darkest purple forms.

The hybrids recently imported from England also came into bloom. The large-flowered Brassocattleya Penelope had three flowers, each measuring eight inches across. An unusual colour combination of yellow petals and purple lip was presented by Læliocattleya luminosa aurea. Mimicry was shown by the Butterfly Orchid (Oncidium Papilio and O. Kramerianum), a group of which was displayed on a tree stump. A large number of Cypripediums were also shown. These are not as popular as the more highly coloured Cattleyas, being regarded by the layman more as a curiosity. However, to the connoisseur their variety and form are intensely interesting. The late Mr. D. S. Brown made these plants his speciality, bringing together the best varieties from all parts of the world. His entire collection was presented to the Garden in 1919.

A series of hand-coloured photographs which were taken during the Colombian expedition was displayed, depicting the Orchid as it grows in its native habitat, the difficulties of transporting them by mule back, raft, etc., and their final arrival at the Garden.

THE LATE MR. D. S. BROWN.

ORCHIDS OF COLOMBIA.

UNDER the title *Beitrage zur Orchideenkunde von Colombia*, Dr. R. Schlechter has compiled much additional information on the South American Orchids. It is published as vol. xxvii. of *Repertorium specierum novarum regni vegetabilis*, 1924, Dr. F. Fedde, Dahlem bei Berlin. Section I is devoted to Orchidaceæ Hoppianæ; II to Orchidaceæ Schultzeana, and III to Orchidaceæ novæ vel rariores collectorum variorum.

In the preface to section I, we learn that in May, 1920, Dr. Schlechter made the acquaintance of Mr. Werner Hopp, a civil engineer who was on the eve of journeying to Colombia, whence he had only shortly before returned to Europe. In addition to his own profession, Mr. Hopp took a great interest in natural history, and on that account Dr. Schlechter asked him to collect Orchid material during his stay in South America. Having agreed to do so, Mr. Hopp very soon provided himself with a knowledge of the various types of Orchids and the methods of collecting. Thus well prepared, Mr. Hopp left Europe in 1920.

His first destination was Bogota, the capital of Colombia, where he was invited to undertake some explorations in the Central Cordilleras. Having received a call to visit Pasto, in order to construct a large electrical station, he proceded there in December 1920, and was enabled during his two year's residence to make extensive and interesting collections. His great success in the entomological section, including an important collection of Lepidoptera, will be honoured elsewhere.

The greater part of the Orchid collection was got together by Mr. Hopp, who spared neither time nor money in the furtherance of his object. As an assistant, Mr. Hopp was fortunate in finding a Colombian, named Santiago Arevalo, who had accompanied the explorer Fassel on several expeditions, and who had, therefore, a good knowledge of the work. Thanks are due to him for his valuable assistance.

Mr. Hopp confined his attention to the exploration of the eastern Cordilleras and the higher Caqueta-Putumayo district, which scientifically was a "terra incognito." In May 1921, he sent Arevalo beyond the lagoon of Pasto to Mocoa, in the higher Putumayo district, where he made extensive collections. Upon several occasions, Mr. Hopp personally visited his assistant collector. Mocoa, which lies 530 metres above sea-level, proved an ideal spot, and much material was gathered in the immediate neighbourhood. Excursions were also made to Umbria. It was possible to prove the often expressed opinion that at the foot of the eastern Cordilleras the influence of the Brazilian Flora and Fauna makes itself plainly perceptible, and that a whole series of types, which previously were only known from the east of Peru and Ecuador, had here penetrated, partly in the same species and partly in related species, towards the north. The western boundary of the former "Territorio del Caqueta" lies in the watershed of the eastern Cordilleras, so that all the varieties collected can be considered as belonging to the Flora of this territory. The scientific value of the collections can thus be estimated. Dr. Schlechter states that in his enumeration of the Orchids of Colombia only two species were known from the Caqueta territory. The Hopp collection contains 77. Also that it must be remembered that this material was only gathered in one direction along the way from Mocoa to Umbria, and that it consequently shows only a limited number of species in comparison to those existing there. On this account we only get a glimpse of the Orchid flora. Mr. Hopp collected not only the kinds with large or showy flowers, but also the small and insignificant ones, from which the whole aspect of the natural conditions is better understood. A profusion of new varieties may be expected as soon as a systematic investigation of this very difficult country is undertaken.

The neighbourhood of Pasto has been visited by many collectors, but only two, B. F. C. Lehmann and Edward Klaboch, remained there for any length of time; most of the others passed through rapidly on their way to, or from Ecuador. Klaboch collected only species valuable for the garden, and the collections of Lehmann have been but little classified. Consequently, one understands why such a high percentage of novelties is obtainable from the surroundings of Pasto. Mr. Hopp certainly had the opportunity of visiting many localities which lay off the great collecting road, and here he found amongst the rather insignificant Pleurothallodeæ many novelties. Much of interest was particularly obtained from the volcanic ledges near Pasto, where, at a height of 4,000 metres, several species were discovered, and, at 4,200 metres the interesting Epidendrum atrobrunneum was observed close against the ice. Another interesting place was Daza, a conical elevation some 10 kilometres north-west of Pasto. According to Mr. Hopp these localities are extremely rich in Orchids.

Terrestrial Orchids of the Basitonæ and Polychondreæ are unfortunately poorly represented. They surely grow plentifully in the woods and open spaces but were probably not recognised as Orchids by the collectors. The work of procuring these, especially of the genus Habenaria, must be left to other collectors.

In July 1921, Mr. Hopp made an expedition from Pasto, on the west towards the coast as far as Barbacoas. This district had been visited once before by F. C. Lehmann. Of the large quantity found, Dr. Schlechter says he would like to mention the particularly interesting Elleanthus ampliflorus, Cycnoches brachydactylon, Huntleya brevis, as well as several species of Epidendrum and Maxillaria.

Mr. Hopp spent the last few months of his stay in Colombia, in Ipiales, on the boundary of Ecuador and Colombia, but belonging to the latter. Here his work hindered him from collecting much, still he got together a small but interesting collection, containing a number of new species, including some stately Pleurothallis and Epidendrums. In the spring of 1923 he returned via Quito and Guayaquil to Europe. As the parts traversed by Mr. Hopp are very little known, Dr. Schlechter asked him to write a short account of his journey, and this he also records in the hope that the route taken by so successful a pioneer of science will not be lost, as has happened with so many former travels in Colombia.

II. ORCHIDACEÆ SCHULZEANA.

Dr. Arnold Schultze, formerly in the German Colonial Service in Cameroon, West Africa, travelled to Colombia in June, 1920, to devote himself again to service in the Tropics. His experience as an explorer and expert in the discovery of new petroleum fields afforded him an opportunity, during one of his extensive expeditions, to gather together a small but very interesting collection of Orchids for Dr. Schlechter. This expedition traversed the district of Suma Paz on the border of Cundinamarca and the old territory of San Martin.

On this occasion Dr. Schultze travelled over Villa Vicencio and San Martin. Behind Villa Vicencio he passed through splendid virgin forest, where the Ravenala attains a height of twenty metres. He again went over the "Puro Rucio," one of the most interesting parts of equatorial America. The woods of the Rio Pescado were found to be particularly rich, even to a height of 900-1200 metres, also the lower Tierra Templada, where Dr. Schulze contracted fever. The flowering period of the epiphytal Orchids appeared to be throughout the whole year. All the epiphytes grew on the rocks as well as on the trees. Some species were abundant, others scarce.

Dr. Schultze hoped to send examples of the plants which are typical of the habitat of the Orchid concerned, as a kind of symbiosis appears to be present between Camaridium quercicolum and Quercus (tolimensis ?). Unfortunately, he could not complete his expedition in the district of Suma Paz, as an attack of malaria forced him to return prematurely to Bogota. There he again commenced his labours.

Dr. Schlechter states that the Schultze collection is important, as it was made in an almost botanically unknown district, Through it the first Orchids from the "Territorio de San Martin" became known. There are only a few species, and these from the eastern slopes of the eastern Cordillera. It is to be hoped that Dr. Schultze will be enabled to fill the vacancies in our knowledge of the Orchid flora of the district, and particularly important that species should be obtained from the lower district between Villa Vicencio and San Martin.

III. ORCHIDACEÆ NOVÆ VEL RARIORES COLLECTORUM VARIORUM.

In the third section Dr. Schlechter refers to a number of species which he received partly from small consignments and partly from older collections, and particularly interesting as being either new or station examples. Reference is made to several small packets received from Mr. R. Schnitter, and also from Mr. H. Hopf, of Bogota. Expectations that interesting and new Orchids would be forthcoming were thus realised.

Dr. Schlechter had frequently called attention to our lack of knowledge regarding the Orchid flora of Cundinamarca, especially in the area around Bogota. Thanks to the labours of the two above-mentioned persons, and some others, the number of known Orchids from this area has been doubled during the last ten years. It is hoped that a considerably better picture of the Orchid flora of this part of the Republic will be available if the work can be continued with the same enthusiasm. Dr. Schlechter says he cannot lay too much stress upon the fact that we know very little about the commonest Orchids from the neighourhood of Bogota, with the exception of those distinguished by the size or beauty of their flowers.

Dr. Schlechter remarks that in his enumeration of the Orchids of Colombia, 1920, practically nothing was known from Cundinamarca with regard to the large genera Pleurothallis, Epidendrum, Masdevallia, Stelis, Oncidiums, and others. A total of only 54 different species were known from the whole of Cundinamarca. In March, 1921, six new species were added from the small consignments of Mr. Schnitter, and, later on, through the reception of fresh material and the arrangement of the Kalbreyer Orchids, other important additions were made. We are still very far from being able to admit that we have an accurate idea of the Orchid flora of this region, The absence of the insignificant forms as well as the terrestrial kinds in our collections is apparent, although they certainly exist in great quantity. Dr. Schlechter says it would be a praiseworthy undertaking if some lover of plants would devote himself to the collecting of all the Orchids that exist in the neighbourhood of Bogota.

Mr. Bungeroth also sent to Dr. Schlechter a few Orchids from Bucaramanga, some of which had not previously been described, while others were only known from districts outside of Colombia. Some novelties were also recieved from F. C. Lehmann, and from G. Schmidtchen, whose not unimportant collections remain in the Reichenbachian herbarium in Vienna. This is to be regretted, as Mr. Schmidtchen had paid special attention to the small flowering species. The arrangement of this material will surely bring to light a large number of new and interesting species.

It is remarked that not only is the matter of new species of importance, but the precise location of those previously described should be noted. The most celebrated of all Orchid scholars, Reichenbach, fil., often exhibited new types from very imperfect materials, which not infrequently consisted of a solitary inflorescence, or even single flowers which had been picked by the wayside by travellers and collectors. These all require more detailed explanations so that their precise relationship may be recognised.

Another error is refered to by Dr. Schlechter. He states that he is often told by collectors that they did not collect some species because the plants were so plentiful in the neighbourhood, and that they considered such common material was not required. Through such an idea the most interesting and important species have been passed over, often the type plants of the district concerned, also it is never certain that a species plentiful in one place occurs elsewhere. Particularly with Orchids, which are often distinguished by local distribution, it is important to collect all types which are seen, only then shall we be able to form an accurate idea of their distribution.

As Colombia is mostly unexplored as regards its Orchid flora, every example which is not too incomplete is of importance. Specimens gathered when not in flower are worthless. The most important parts of the plant are the pseudobulb, or stem, with leaves, the entire flower spike, and, above all, the presence of flowers.

In concluding the prefatory remarks to this section, Dr. Schlechter says he is always willing to determine and classify any specimens of Orchids, and to describe new species. He hopes that the inhabitants of Colombia will in time interest themselves in the examination of their country's Flora, as is already the case in Costa Rica and the Brazilian States. Up till now it has been the foreigners who have made a name for themselves in this matter.

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DENDROBIUM FORMOSUM.—Roxburgh has stated that this species was sent to the Calcutta Botanic Garden from Sylhet, in 1811. It was introduced to European gardens in 1837, by Gibson, when collecting for the Duke of Devonshire in the Khasia Hills, and flowered at Chatsworth in May of the following year. It is a lowland species, and Col. Benson remarks that in Burma he never saw it growing at any particular elevation, or at any distance from the sea. Its favourite habitat is on low trees in open situations, where it gets little shade beyond that of the trees when in leaf, and where it gets much shrivelled in the hot dry season from February to April. Major-General Berkeley has given very full particulars of the condition under which it grows (*Orchid Review*, vol. ii., p. 137), which may be briefly summarised as a hot atmosphere, well charged with moisture, and plenty of light. When well cultivated the large white flowers are freely produced.

CULTURAL NOTES.

ANGRÆCUMS.—Many of these are fast developing their flower spikes, among which may be mentioned A. Sanderianum, A. Ellisii, A. Leonis, A. falcatum, A. citratum, and the pretty little A. fastuosum. Any re-potting necessary with these should be delayed until the flowering stage is passed. Continue to give water in moderation. The small growing section does best grown in pans or baskets, with liberal drainage, and moss pressed firmly about the base, whilst A. sesquipedale, A. eburneum, A. superbum, and A. Scottianum should be grown in pots, giving plenty of drainage and little moss at the base, for abundance of water is needed during the growing season.—*J. Mackay, March*, 1902.

STIPPLING.—This is an important item in making good growing temperatures in most of the houses. I do not like to have to run the blinds down too early in the morning, and if a little stippling is put on the houses the temperature can be run up with sun heat, and no harm accrue to the plants. Then they can be raised again earlier in the afternoon than would be possible without some shading on the glass. I do not advise it being put on thick: just a faint covering over the inmates that object to much direct sunshine suffices. What we use at Gatton is only ordinary flour and water, mixed thin. That will be found to adhere, and if the glass is clean it will last the season. One thing in favour of this shading on wet days is that it is so transparent that little light is impeded. All shadings should now be fixed ready for use. A gradual rise in the temperatures may now be commenced, increasing it as the days lengthen and the sun gets more power. It will also be beneficial to see that the houses are maintained in a more humid state, carefully observing before damping down late in the afternoon if there is any probability of a cold night.—*W. P. Bound, March*, 1907.

LYCASTES are among the best winter flowering plants we have, as they will stand fog or any sort of weather, and either for cutting or decorative work they are most useful. They are not difficult to grow, and do not get bothered with insect pests like many others do. They will grow well in an intermediate temperature. A batch of the different varieties makes a very pretty group. L. Skinneri alba is a beautiful subject when well grown. Plants that have passed out of flower should be examined, and those that require potting or top-dressing should be attended to. A compost of turfy loam and peat in equal quantities, with plenty of crocks and lumpy charcoal to keep it open, will suit them well. Plants that are in good condition should not be disturbed, but old material should be picked out from the top of the pot and a surfacing of new compost added. Plants that are pot-bound should be shifted into pots about two sizes larger, so as not to want shifting again for two years or so, and plants which have got into bad condition should be shaken out and given a fresh start. Generally these will need a smaller-sized pot. In potting them the plant should be kept quite an inch below the rim of the pot, so that plenty of water can be given in the growing season. They enjoy a good syringing when they are growing, which also keeps the foliage clean.—*W. H. Morgan, March,* 1909.

Oncidiums.—Oncidiums tigrinum and O. unguiculatum are beautiful species when well grown and flowered. They grow readily enough in the Cool house under precisely the same treatment as that accorded to Odontoglossum crispum. But from a flowering point of view they both are apt occasionally to disappoint the grower, as they cannot be relied upon to flower with anything approaching regularity every year. The very largest and finest pseudo-bulbs will sometimes fail to produce a spike, whilst on the other hand a tiny insignificant one may do so. In the latter case it should not be allowed to bloom, but pinched off as soon as it appears, for there is but little use or beauty in a weakly spike bearing only two or three half developed flowers. It is better that what energies the plant possesses should be reserved, so that it may make a larger pseudo-bulb the following year. In the former case nothing can be done to force the strong plant to bloom when it has decided not to do so. It is satisfaction, however, to see the fine unflowering growth develop into a grand pseudo-bulb of a large size; the plant itself is then a refreshing sight. And there is consolation in knowing that from a plant of such strength the chances are greatly in favour of an enormous flower spike appearing from the following growth, particularly so if during the winter, when inactive, the plant has had a good rest on the dry side. O. tigrinum sends up its spike from the side of the new growth when the latter is about half matured, and usually blooms in November or December, whilst O. unguiculatum is a month or two later in showing its spike, and consequently a corresponding period later in blooming. Where repotting is necessary take them in hand immediately the new growth is seen breaking from the base. Pot firmly in good fibrous peat and sphagnum moss, and always keep them confined to comparatively small pots.—*H. A. Burberry, March,* 1898.

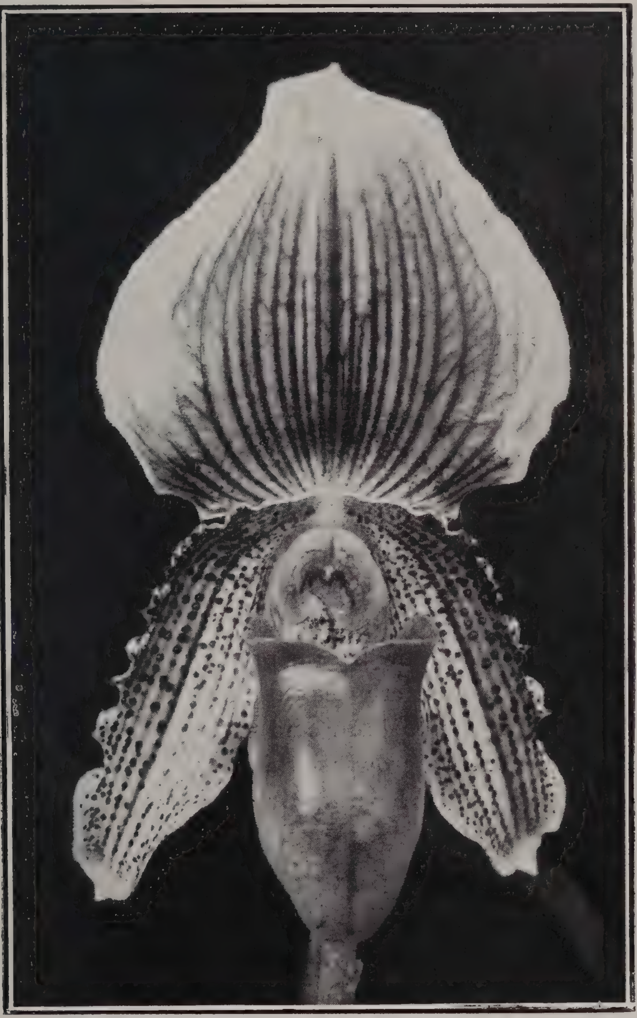
Catasetums.—These, with the allied Mormodes and Cycnoches, are rather peculiar plants to get on successfully with, unless they receive a long and very dry rest throughout the winter months in an intermediate temperature. About this time they again awaken to activity, and commence to push new growth, together with large fleshy roots, which must be preserved. I have invariably found it best to grow them in small hanging receptacles, taking them out and supplying wholly new material each year, and using nothing but sphagnum moss mixed with broken charcoal, and the usual drainage, which must of course be ample. This may now be done, and the plants removed to their growing quarters in the warmest house, but still be kept fairly short of water until better weather arrives, and the roots get well hold of the new materials, otherwise the new growths may damp off. Keep the growth going by moistening the surface with a fine rose syringe when it seems to be getting over-dry. They are exceedingly interesting Orchids, but culturally are certainly rather tricky.—*H. A. Burberry, March,* 1900.

LÆLIO-CATTLEYAS.—From germination until they are two years old Lælio-cattleyas have no clearly defined period of rest. The seedling growth has barely finished before the bend in the leaf-axil starts, and this second growth will no sooner be completed than the eye at its base will swell, so that there is really a continuity of growth, varying in its degree of activity according to the season, for the first two years of the plant's existence; during the third and fourth year, there will be great irregularity among plants of the same age and same cross, they being probably all at different stages of growth at one time; but as they near the flowering period they come more into line, and although growing well into winter, they may take a short dormant period.

The object which one has in view with small seedlings is to get them large as soon as posible, and as there is no interruption or exhaustion from flowering, and no flowering period to be anticipated and prepared for, the method of treatment differs in some essential points from that accorded to adult plants. Sunlight and air, so necessary to ripen up the tissues of Cattleyas and Lælias that are of flowering size, and without which they will not flower up to their true character, should both be applied less liberally to these small seedlings. Lælio-cattleyas will stand a lot more sun before turning yellow than imported species will, and they should receive all they will stand when large, but strong light has a dwarfing effect on small seedlings, and thus the flowering stage, so much longed for, is retarded. The temperatures must to some extent be regulated by the species from which the seedlings are derived, but should be considerably higher than these enjoy, and for at least the first two years of growth no difference need be made in this respect between seedlings derived from cooler growing species, such as Lælia Jongheana, and those derived from species requiring more heat, such as Cattleya superba. Later on one must of course differentiate. A night temperature of 65° in winter seems to suit all Lælio-cattleyas admirably for the first two or three years, and they must receive similar treatment to growing plants with regard to watering. No plant, unless it be deciduous, can be kept at a minimum temperature of 65° in winter without requiring a considerable amount of water at the root, and as Lælio-cattleyas are fully furnished with leaves, which offer a large surface for transpiration, they should not be allowed to suffer for want of water.—*J. M. Black, March,* 1906.

CYPRIPEDIUM SIBYL.

ONE of the most distinct sections of the Cypripedium hybrids exists in the various crosses of C. Fairrieanum, a species at one time exceedingly rare in cultivation, but subsequently imported in large quantity and represented in nearly every collection, and now again becoming rare. One of its characteristic points is the drooping style of the two petals, a feature that is transmitted to almost all of its descendants of the first and second generations. C. Sibyl was produced by crossing Fairrieanum with Goultenianum (callosum × Curtisii), and is thus composed of three well-known species. It was raised in the collection of the late Mr. N. C. Cookson, and



CYPRIPEDIUM SIBYL.

our illustration is of the variety superbum which received an Award of Merit, November 7th, 1911, when shown before the Royal Horticultural Society. The dorsal sepal is white, tinged with rose and striped with purple, the basal area being green. The petals are lined and dotted with dark purple.

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CYMBIDIUM CULTIVATION.—In an article on "Cymbidiums: Their Importance in the Orchid World," published in the *Gardeners' Chronicle*, U.S.A., January, 1925, Mr. William Turner remarks: "By the way, though I dare say that each and every one of us has his own ideas and methods in regard to potting material—it would be a queer world if we were all of the same opinion—I can recommend nothing better as a compost than a mixture of peat and moss with a liberal amount of fibrous sod, not forgetting to add some lumps of charcoal. Firm potting is also a necessity. Of course, after potting, watering at the roots should be done sparingly, rather keep them going and encourage root action by the use of a damp atmosphere and spraying the foliage, etc., during the summer months, or when they have established themselves in the new potting material. However, they must not suffer for want of moisture at the roots. Provide good drainage in the pots, for while they appreciate water in the summer, anything stagnant is absolutely offensive. They may be kept a bit on the dry side during the winter, although I do not believe in too severe drying, as the foliage may be somewhat depleted. Though we are in the days of prohibition, Cymbidiums will not object to a stimulant. Indeed, they seem to revel under the treatment, that is, watering once a week with liquid manure, that from the cow barn is preferable. This sort of medicine is understood to be used for strictly healthy and vigorous plants, and by such methods they will continue to grow and increase to an amazing extent. Just imagine all the old back growths which may be turned into account. Place them into small pots and within three or four years they will be nice thrifty plants."

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VEITCH MEMORIAL MEDAL.—A Veitch Memorial Medal in gold has been awarded to Monsieur H. Correvon for his work on Alpines. A review of M. Correvon's *Album des Orchidées d'Europe* appeared in the *Orchid Review*, 1924, p. 35.

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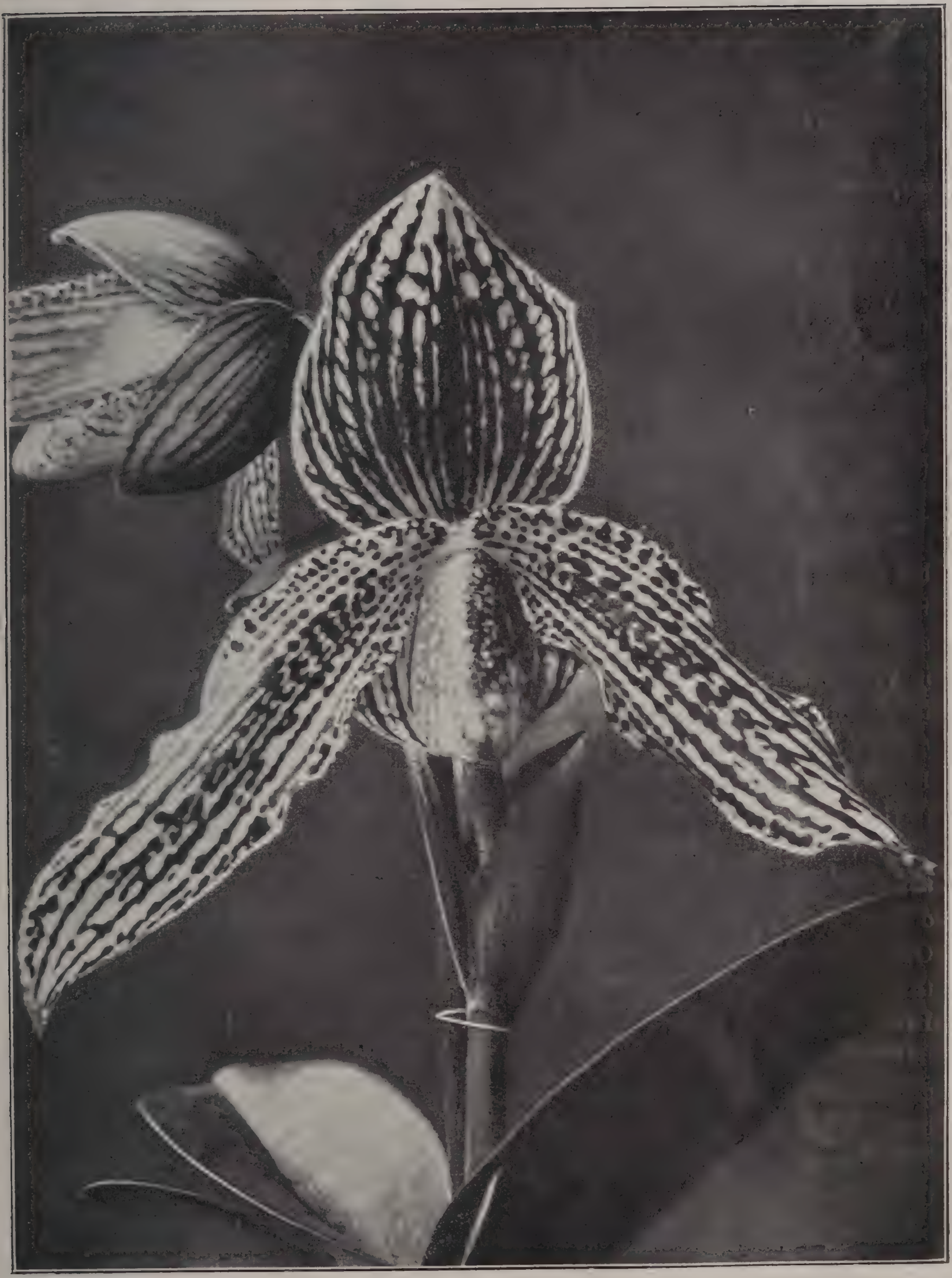
SALE OF THE "OAK COTTAGE" COLLECTION.—The collection of Orchids formed by the late Mr. J. Hamilton Walker, of Pendleton, Manchester, will be sold by private treaty. It comprises over 2,000 well-grown plants, embracing high-class Cypripediums and an interesting batch of Odontoglossum crispum. Full particulars may be had from Messrs. A. J. Keeling & Son, Westgate Hill, Bradford.



CYPRIPEDIUM DAISY BARCLAY (GODEFROYÆ × ROTHSCHILDIANUM) FLOWERS CREAM-YELLOW MARKED WITH CLARET-PURPLE.

PLANTS OF INTEREST.

DENDROBIUM HUIA. — The introduction of Dendrobium Regium afforded valuable material for the raising of new Dendrobium hybrids, for the flowers of this species possess segments that are much broader than those of D. nobile, while the colour is also richer, being bright rose-purple. One of the first of its hybrids was seen in D. Alpha (Regium × euosmum), which flowered in the Gatton Park collection in 1910. Others subsequently appeared, and the latest novelty can now be recorded in Dendrobium Huia (Alpha var. Eleanor × Cybele, Gatton Park var.), the name meaning "Priceless Treasure." The flower, almost equal in size to that of Dendrobium Lady Colman, measures $3\frac{1}{2}$ inches in width, each petal being $1\frac{3}{4} \times 1\frac{3}{8}$ inches and of bright rose-purple tinged with violet. The labellum bears a deep velvety-crimson blotch, margined with yellow, around which is a whitish area, the front lobe being rosy-purple. It forms a valuable addition to the long series of meritorious hybrids raised in the collection of Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

VANDA WATSONII.—This plant has the general habit of V. Kimballiana, but differs in having a short sac to the lip instead of an elongated spur, and in the front lobe being white and concave, with a yellow interior and crest and some brown dots. The terete leaves are also rather more slender than in V. Kimballiana. It was introduced by Messrs. Sander & Sons, through their collector Micholitz, who found it in the interior of Annam at about 5,000 feet elevation. It flowered for the first time in cultivation in the Royal Botanic Garden, Glasnevin, in the spring of 1905, and was dedicated to the late Mr. W. Watson, Curator of the Royal Botanic Garden, Kew.

CALANTHES.—A gardener remarked to me that Calanthes seemed to him to be generally better grown in general collections than in regular Orchid collections. His argument was that those who did not profess to understand Orchids grew these Calanthes better along with their ordinary stove plants than did the Orchid grower who practically cultivated nothing but Orchids. I conceded the point, for I had observed the selfsame thing; not always, but twice out of every three cases, and the reason is not far to seek. The general man eventually finds a position in his Stove or, perhaps, the Cucumber house, which he finds well adapted for the growth of his Calanthes, and is able to reserve this position each year; thus success is assured. But with the regular Orchid grower Calanthes are often ousted from the most suitable positions by more rare and costly species, which must have the best places and the lion's share of attention. Not that he neglects his Calanthes in respect to watering and other matters; perhaps they get a little too much attention and kindly coddling, and thus in trying to grow his plants too well he fails.—*H. A. Burberry.*

NEW HYBRIDS.

NAME.	PARENTAGE.	EXHIBITOR.
Brassocattleya Nerto	Bc. Mrs. J. Leeman × Bc. Ilene	Perrin.
Cattleya Anne Claude	amabilis × labiata	Mons. Blevenec.
Cymbidium Cormorant	Schlegelii × Lowio-grandiflorum	Sir Geo. Holford.
Cymbidium Dotterel	Gottianum × I'Ansonii	,, ,,
Cymbidium Evelyn	insigne × Coningsbyanum	McBean.
Cymbidium Flamingo	Alexanderi × Merlin	Sir Geo. Holford.
Cymbidium Fulmer	Seamew × Lowio-grandiflorum	,, ,,
Cymbidium Giant Rose	Alexanderi × Schlegelii	Stuart Low.
Cymbidium Godwit	Gottianum × Garnet	Sir Geo. Holford.
Cymbidium Goosander	insigne × Merlin	,, ,,
Cymbidium Guillemot	Pauwelsii × Cygnet	,, ,,
Cymbidium Plover	Pauwelsii × Lowio-grandiflorum	,, ,,
Cymbidium Redshank	insigne × Redstart	,, ,,
Cymbidium Sandpiper	Alexanderi × Seamew	,, ,,
Cymbidium St. Andre	Erin × Alexanderi	Sanders.
Cymbidium Starling	Seamew × Cygnet	Sir Geo. Holford.
Cymbidium Wheatear	Pauwelsii × I'Ansonii	,, ,,
Cypripedium Abel Chatenay	Druryi × Gaston Bultel	Luxembourg Gdns.
Cypripedium Babylon	Nirvana × Leeanum	Sanders.
Cypripedium Colleen	Peter × Perseus	Flory & Black.
Cypripedium Conference	Chardwar Bulldog × Hera-Beckmannii	Armstrong & Brown.
Cypripedium E. M. du Boulay	Clio × Hera-Euryades	F. J. Hanbury, Esq.
Cypripedium Gasmirum	Gaston Bultel × Eurybiades	Hamilton Smith, Esq.
Cypripedium Gold Mohur	Goliath × Lady Dillon	G. F. Moore, Esq.
Cypripedium Lord Allenby	Gaston Bultel × Eurybiades	Mrs. Gratrix.
Cypripedium Luminous	Alabaster × Carola	Sanders.
Cypripedium Rob Roy	Idina × Chrysotoxum	H. T. Pitt, Esq.
Cypripedium Robert Paterson	Eurybiades × Mem. F. M. Ogilvie	Flory & Black.
Cypripedium S. W. Flory	Mrs. H. Jenkinson × Chardwar	,, ,,
Læliocattleya Barres	C. Dowiana aurea × Lc. Lucasiana	Vacherot & Lecoufle.
Odontioda Maria	Oda. Sanderæ × Odm. Pescatorei	Sanders.
Odontioda Oberon	Odm. Titania × Oda. Cooksoniæ	C. Cookson, Esq.
Odontoglossum Ceramic	Watsonii × eximium	McBean.
Odontoglossum Ophelia	Melanthus × St. James	Charlesworth.
Odontonia Alesia	Otna. Milly × Odm. Llewellyn	,,
Odontonia Duchess of York	M. Bleuana × Odm. majesticum	,,
Odontonia Nesta	Otna. Gladys × Odm. St. George	,,
Oncidium boissiense	varicosum Rogersii × Forbesii	Vacherot & Lecoufle.
Vuylstekeara Culce	M. Bleuana × Oda. Elsie	Charlesworth.

ROYAL HORTICULTURAL SOCIETY.

January 27th, 1925.

MEMBERS of the Orchid Committee present:—C. J. Lucas, Esq. (in the chair), and Messrs. Gurney Wilson (Secretary), Jas. O'Brien, F. J. Hanbury, R. Brooman-White, H. T. Pitt, H. H. Smith, S. W. Flory, F. K. Sander, J. E. Shill, Stuart Low, C. H. Curtis, John Cowan, A. McBean, T. Armstrong, and the Hon. Henry D. McLaren.

FIRST-CLASS CERTIFICATE.

Cypripedium Mrs. William Pickup (Alcibiades × Thisbe); from Dr. Craven F. Moore, Victoria Park, Manchester (gr. Mr. C. Branch). A large and very attractive flower, the broadly developed dorsal sepal flushed with deep-rose, tinged with brown on the basal area, the upper part white, and with the margin neatly crisped; petals and labellum yellow, stained with red-brown.

AWARDS OF MERIT.

Brassocattleya Bianca var. Auramine (Bc. The Baron × C. Mendelii); from Messrs. J. & A. McBean. This handsome hybrid bore two large flowers, the segments white, slightly tinged with pink, the large labellum having the margin deeply fringed and the throat yellowish.

Odontonia Nesta (Odontonia Gladys × Odontoglossum St. George); from Messrs. Charlesworth & Co. An immature, but promising seedling, the erect spike bore three flowers of medium size, the labellum broadly developed, and all the segments marked with crimson-rose blotching.

Odontoglossum Ceramic (Watsonii × eximium); from Messrs. J. & A. McBean. A handsome plant bearing an arching spike of 14 flowers, well above the average size, the sepals yellowish, the petals white, and both blotched with chocolate-red; the labellum similarly coloured.

GROUPS.

Messrs. Sanders were awarded a Silver-gilt Banksian Medal for an extensive group of attractive Orchids. In the centre was the fine Angræcum superbum, with a spike of eight wax-like flowers, also Lycaste Skinneri alba and Masdevallia Schrœderiana. Cypripediums were well represented by Maudiæ, Carola, with a purple-flushed dorsal sepal, and Cappamagna var. Christmas Cheer. Among the Calanthes were examples of Wm. Murray and Baron Schröder, while Cymbidiums of quality were seen in Ringdove, Fairy, Schlegelii and Louis Sander.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. (gr. Mr. Thurgood), received a Silver Banksian Medal for an interesting exhibit, containing in the centre Odontoglossum harvengtense, with a spike of nine large flowers of golden-yellow colour, also Odm. King George V., and Odm. eximatum. In the front were Epidendrum pumilum, with light yellowish flowers, and the pretty E. Endresii. Lc. Aphrodite and Cymbidium Queen of Gatton were finely flowered, and a pleasing Odontonia was staged in Sheila, of reddish colour.

Messrs. Stuart Low & Co. were awarded a Silver Banksian Medal for a group in which Odontoglossums and Odontiodas were well represented. Among the former were fine forms of Red Admiral, harvengtense, eximium and Doris, while among the latter were Bradshawiæ, Lady Colman and Bohnhofiæ. In the centre was a finely flowered example of Oncidioda Stuart Low, with a trailing spike of bronze-red flowers. Miltonia Bleuana and several Cypripediums stood out prominently, and in the front was Odontoglossum scintillans, very pretty, the segments profusely spotted with brown and the labellum rose-coloured.

Messrs. J. and A. McBean staged Lycaste Skinneri alba, with six large flowers, a fine form of Odontioda Charlesworthii and Cymbidium Evelyn with many flowers of a pleasing greenish-yellow colour.

Messrs. Flory & Black exhibited varieties of Cypripedium Golden Wren, of yellowish tints, Eurybiades, Chloris, and Etta, the latter having the dorsal sepal heavily marked with blackish spots.

Sir Arthur Watson, C.B.E., Dollis Avenue, Finchley, showed Lycaste Skinneri, with eleven flowers and buds.

Messrs. Cowan & Co. staged Brassocattleya British Queen, of attractive qualities, a selection of Cypripediums and Cattleya Tityus, the latter of fine formation and with the labellum of rich purple colour.

W. R. Fasey, Esq., Snaresbrook, showed Odontioda Colinge, with a spike of 14 flowers of a pleasing scarlet tint.

February 10th, 1925.

Members of the Orchid Committee present:—Sir Jeremiah Colman, Bart. (in the Chair), Lieut.-Colonel Sir George Holford, K.C.V.O., Gurney Wilson (Secretary), Jas. O'Brien, F. J. Hanbury, E. R. Ashton, Stuart Low, T. Armstrong, J. C. Cowan, A. McBean, S. W. Flory, R. Brooman White, C. H. Curtis, H. H. Smith, G. F. Moore, J. E. Shill, H. G. Alexander, F. K. Sander, A. Dye, C. Cookson, H. T. Pitt, A. J. Kaye, and C. J. Lucas.

First-class Certificate.

Cymbidium Goosander (insigne × Merlin); from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury. One of the most charming of the many hybrids of Cymbidium insigne. The tall spike bore 11 flowers, of delicate pink tinge, the labellum having the front and side lobes suffused with rose, the column similarly coloured.

Cypripedium Memoria F. M. Ogilvie var. Rex; from Messrs. Armstrong & Brown, Tunbridge Wells. A noble flower with all the segments well above the average size and effectively coloured. The dorsal sepal white, greenish at the base, and marked with bold spotting of dark purple colour, petals and labellum yellowish shaded with red-brown.

Awards of Merit.

Miltonia Wm. Pitt, Stamperland var.; from Robert Paterson, Esq., Cathcart, Glasgow. A very beautiful result, the young plant bearing a spike of four flowers, in habit resembling the well-known form of M. vexillaria, but of rich crimson-red colour equally suffused throughout the segments, except for a small yellowish area at the base of the labellum.

Cypripedium Gold Mohur (Goliath × Lady Dillon); from G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, Glos. (gr. Mr. W. H. Page). A roundly formed flower, the dorsal sepal of deep amber yellow colour, with some blackish spotting, the margin boldly undulated and with a narrow white border, petals brownish, and with a bright sheen.

Cattleya Caroline splendens (C. Percivaliana × C. Enid); from Messrs. J. & A. McBean, Cooksbridge, Sussex. An attractive plant with a compact spike of five large flowers, rosy mauve in colour, the immense labellum of bright purple.

Cymbidium Redstart var. Crimson Lip (Dryad × Pauwelsii); from Lieut.-Col. Sir George Holford. This pleasing hybrid carried a spike of 12 flowers of rose-pink tinge, the labellum having the front lobe blotched with crimson-rose.

Cymbidium Butterfly, Westonbirt var. (insigne × Lowio-grandiflorum); from Sir George Holford. A robust plant wlth a spike of 24 large flowers of yellowish colour, the labellum attractively marked with crimson-red.

Cymbidium Warbler, Westonbirt var. (Gottianum × Holfordianum); from Sir George Holford. This plant bore two spikes with five and seven flowers respectively, of light greenish yellow, delicately shaded, the widely developed labellum having the main area white, with a few crimson lines and spots.

Cymbidium Curlew, Westonbirt var. (Butterfly × Alexanderi); from Sir George Holford. The spike carried 11 flowers of yellowish colour tinged with green, the labellum blotched and lined with crimson.

Cymbidium Lapwing var. roseum (Butterfly × Miranda); from Sir George Holford. A pretty hybrid with a spike of 17 flowers of rose colour, the labellum tinged with brown and spotted with crimson-red.

GROUPS.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury, exhibited a wonderful group of Cymbidiums, receiving a Gold Medal and the Special Congratulations of the Council, a Silver-gilt Lindley Medal being also awarded to Mr. H. G. Alexander in recognition of his cultural ability. This group occupied a space of 225 square feet, included over a hundred specimen plants, and comprised 36 distinct crosses, including several novelties. All the plants had been raised in the Westonbirt garden, and the largest carried as many as four spikes. There were many examples of 30 flowers on a spike, while the general condition of cultivation and the effective arrangement met with considerable appreciation. There were no less than 18 plants of C. Butterfly, in various shades of colouring, while Alexanderi, Curlew and Bustard were prominent among the many other attractive hybrids. The new Cymbidium crosses are included in our list of New Hybrids.

Messrs. Sanders were awarded a Silver-gilt Banksian Medal for an extensive exhibit containing a number of Cymbidiums, such as brugense, Seamew and President Wilson, also several elegant Cypripediums, of which Carola stood out well. Miltonia Butterfly var. Apex bore finely produced spikes of large flowers, with a bold blotch of colour on the base of the labellum Odontoglossum McNabianum carried a spike just eight feet in length, and a pretty species was seen in Cœlogyne sparsa. A plant of more than usual interest was staged in Cattleya Jenmanii, probably its first appearance in London. It is a native of Demerara, and bore two flowers of labiata type, but somewhat darker in colour.

Messrs. Charlesworth & Co. received a silver-gilt Banksian Medal for a varied group of species and hybrids. Among the former was the elegant Cœlogyne Mooreana, while the latter included a wide range of Odontiodas, in all shades of scarlet and red, as well as Miltonia William Pitt and a number of pleasing Odontoglossums. Odontonia Pittiæ, of deep rose colour, and Miltonioda Harwoodii of soft-scarlet stood out prominently. Several fine varieties of Cattleya Tityus and a selection of Cypripediums came in for appreciation.

Messrs. J. & A. McBean were awarded a Silver Banksian Medal for a prettily arranged group of species and many hybrids. In the centre was a fine example of Angræcum eburneum and Cattleya Trianæ, Fowler's variety; other Cattleyas included Enid alba, with five large white flowers, the labellum purple, and C. Caroline, which secured an Award of Merit. Brassocattleya Bianca var. Auramine carried large showy flowers, while Odontoglossum Rameses had a many-flowered spike. Other interesting plants were seen in Odontoglossum grande aureum, an unusual period of the year for this species, and Cattleya Skinneri alba.

Messrs. Cowan & Co. received a Silver Medal for an effective exhibit containing G. S. Ball's variety of Cypripedium Harrisianum superbum, with flowers of deep purplish-crimson colour, also Cyp. Commodore, Carola and Lee's variety of Idina. In the centre was the magnificent Brassocattleya British Queen var. Empress, and on each side several choice forms of C. Tityus. Cymbidiums in variety as well as Dendrobium atroviolaceum and Oncidium splendidum were also included.

Messrs. Flory & Black secured a Silver Banksian Medal for a group containing the new Cypripedium Robert Paterson, which received an Award of Merit, and Cyp. S. W. Flory (Mrs. H. Jenkinson × Chardwar). Cypripedium Golden Wren bore six pretty flowers, and Cattleyas were represented by Gravesiana alba, pure-white, Evelyn Sander, free-flowering, Tityus, of model formation, and G. P. Walker. Brassocattleya Ruby had flowers of dark ruby-red colour. There was also a robust example of Dendrobium nobile var. Harefield Hall.

Messrs. Stuart Low & Co. obtained a Silver Banksian Medal for a group which included Odontoglossum scintillans with a spike of ten pretty flowers, the segments almost covered with red-brown spotting. A rarity was seen in Miltonia cuneata, and a pretty Oncidium in pulvinatum, with its cushion-like crest on the labellum. Among the Odontoglossums were fine varieties of crispum, Cervantesii, Rossii, and many hybrids, while Odontocidium Edwardatum had a long trailing spike of bronze-purple flowers. Restrepia striata and richly-coloured hybrids of Sophronitis grandiflora were also staged.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier) exhibited Cymbidium Erin (gattonense × Hookerianum), with a long spike of large flowers, the segments broadly developed and of green colour. Also six varieties of Læliocattleya Champagne, with flowers of golden-yellow tinged with cinnabar, the lip ruby.

R. Gerrish, Esq., Milford Manor, Salisbury (gr. Mr. Sorrell) showed Odontoglossum Leander, with a spike of five large flowers of purplish colour, and to which an Award of Merit had previously been given.

Baron Bruno Schröder, Englefield Green, Surrey (gr. Mr. J. E. Shill) exhibited several finely-grown spikes of Calanthe Baron Schröder.

Robert Paterson, Esq., Stamperland, Cathcart, Glasgow, staged Cypripedium J. M. Black, Stamperland var., the white dorsal sepal having some blackish spotting, the petals and labellum stained with mahogany-red. Also Odontoglossum Bonar Law, with a spike of five flowers, of round formation, rose-tinted and blotched with purple.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, Glos. (gr. Mr. W. H. Page), exhibited several meritorious Cypripediums from his well-known collection, all showing excellent cultivation.

THE ORCHID CLUB.

THE Meeting of the Orchid Club, held on February 13th, was characterised by some fine examples of Odontoglossums, Odontiodas, Lycastes, Cymbidiums, and rare species.

PREMIER DIPLOMAS.

Odontioda Joiceyi var. Tyntesfield, shown by Mrs. F. Hardy. A magnificent spike of 16 flowers, each three inches across, the segments broadly developed, giving a round form. Sepals and petals marked with bright crimson-red blotches on a white ground, the margin and tips being pale-violet. The labellum well formed, white, with a crimson-red blotch and a yellow crest.

Oncidium splendidum var. holoxanthum, shown by B. J. Beckton, Esq. A chaste example of this rare variety in which the usual brown markings of the sepals and petals are bleached to a uniform light yellow-green, and the large well-developed labellum is an intensely bright sulphur-yellow colour.

DIPLOMAS OF MERIT.

Lycaste Skinneri, Cussons' var.; from A. T. Cussons, Esq. A large well-formed flower with broadly developed sepals of rose-pink colour, the petals being a darker shade, the lip spotted with crimson. The vigorous plant carried seven flowers and several buds.

Lycaste Skinneri var. Hardyana ; from Mrs. Hardy. A large flower of good form, the sepals white, flushed with rose, the petals dark rose and the lip intense ruby crimson. This fine variety has been in cultivation in the Tyntesfield collection for thirty years.

CULTURAL COMMENDATION.

Lycaste Skinneri, Cusson's var. ; Mr. F. Cookson.

Hæmaria discolor var. Otletæ ; Mr. W. A. Stewart.

GROUPS.

B. J. Beckton, Esq. (gr. Mr. W. A. Stewart) staged a large group of various Orchids, prominent among which were Cypripedium Olympus var. The Chairman, Cyp. Florence Spencer, Trias picta, Maxillaria crocea, two fine examples of Hæmaria, and a large specimen of Platyclinis glumacea with thirty flower spikes.

A. T. Cussons, Esq. (gr. Mr. F. Cookson) showed a large group of Cypripediums and Cymbidiums, among the latter were C. Kervalii and fine examples of Gottianum, Butterfly, Alexanderi and Lowio-grandiflorum.

Mrs. F. Hardy (gr. Mr. Gilden) put up a well arranged group of Odontoglossums and Odontiodas, among which were Oda. Redstart, Oda. Joiceyi var. Coningham, Odm. amabile Tyntesfield var. and white crispums.

Dr. Craven Moore staged Cypripedium Gold Mohur, Radium, Noel Hardy and others.

◆

MANCHESTER ORCHID SOCIETY.

January 23rd, 1925.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the Chair), Messrs. A. Burns, A. Coningsby, D. A. Cowan, J. Cypher, J. Evans, A. Keeling, J. McCartney, and H. Arthur (Secretary).

AWARDS OF MERIT.

Cypripedium Asion, Bolholt var. ; from Capt. W. Horridge.

Odontoglossum Faustina, Cypripedium The Captain, and Cyp. Vega ; from Mr. John Evans.

Læliocattleya Frederick Boyle var. Fascinator ; from Messrs. A. J Keeling & Sons.

AWARD OF APPRECIATION—FIRST-CLASS.

Odontoglossum St. Nicholas (eximium × promerens) ; from Mr. J. Evans.

OTHER EXHIBITS.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), staged a group of Cypripediums, to which a Silver-gilt Medal was awarded.

Messrs. Cypher & Sons received a Large Silver Medal for a group of Cypripediums, Masdevallias, and Oncidiums.

Mr. J. Evans was awarded a Large Silver Medal for a group containing several fine Cypripediums.

February 6th, 1925.

Members of the Committee present: H. J. Astley Bell, Esq., (in the Chair), Messrs. A. Burns, A. Coningsby, J. Cypher, J. Evans, W. Giles. A. Keeling, J. McCartney, E. W. Thompson, and H. Arthur (Secretary).

AWARDS OF MERIT.

Odontioda Purple Gem, Odontoglossum Bedouin, West Point var.; from Mrs. Gratrix.

Odontoglossum Minotaur var. Rouge Royal; Cypripedium Chrysostum var. albanense; from S. Gratrix, Esq.

Cypripedium Bandemona (Bantam × Desdemona); Odontoglossum crispum var. Bridesmaid; from P. Smith, Esq.

Cypripedium Mrs. Giles (Lady Dillon × aureum Hyeanum); from A. Hanmer, Esq.

Cypripedium Minotaur var. Modesty; from Capt. W. Horridge.

CULTURAL CERTIFICATES.

Mr. A Burns, for Lycaste Tunstillii; Mr. C. Branch, for Odontoglossum Dodeham var. Perfection; Mr. G. Giles, for general excellence of exhibit.

GROUPS.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), were awarded a Silver-gilt Medal for a fine group of Lycaste Skinneri varieties, including L. Tunstillii, also Dendrobium Luna, D. primulinum, and D. chessingtonense aureum.

A. Hanmer, Esq., Buxton (gr. Mr. Giles), received a Silver-gilt Medal for group composed of fine Cypripediums, including Nellie Pitt, Commodore and Mogul.

S. Gratrix, Esq., West Point (gr. Mr. C. Branch), was awarded a Silver-gilt Medal for a group containing Odontoglossum Minotaur var. Royal George, Cypripedium Chrysostum vars. albanense and Richard Fort, as well as a selection of Dendrobium nobile hybrids.

J. McCartney, Esq., Bolton (gr. Mr. C. F. Potts), staged fine varieties of Cattleya Trianæ and Cirrhopetalum ornatissimum.

Messrs. Cypher & Sons received a Large Silver Medal for an interesting exhibit of Cypripediums, Dendrobiums, Miltonias and Cymbidiums.

Messrs. Charlesworth & Co. staged Odontioda Wilsonii var. The President, Miltonia Wm. Pitt, and Vuylstekeara Brewii.

Messrs. A. J. Keeling & Sons staged Cypripedium Perseus var. Alpha, C. Tracyanum, and Cattleya Trianæ var. The Baron.

Mr. J. Birchenall staged Oncidium varicosum Rogersii.

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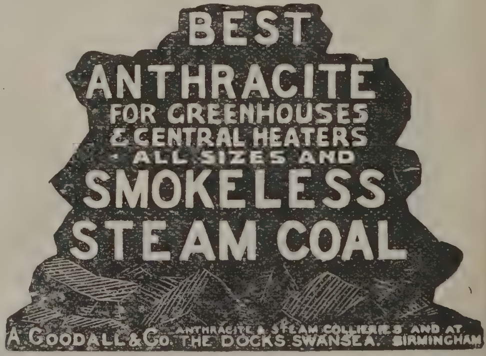
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Osaka, 11-2-25.

"I am very pleased to inform you that your Autumn shipment of Orchids arrived in ideal condition just as well as last Spring."

(Signed) M.S.

SANDERS

Orchid Growers, ST. ALBANS

THE ORCHID REVIEW.

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NOTES.

The Sherwood Cup.—The Council of the Royal Horticultural Society has decided that the exhibits of Orchids will not be eligible for the Sherwood Cup at Chelsea Show more than once in three years. As this Cup was awarded to Orchids in 1924, they will, therefore, not be eligible again until 1927.

Maxillaria Houtteana.—At a meeting of the Société Royale de Flore held at Brussels on February 15th, 1925, a Botanical Certificate was awarded to Maxillaria Houtteana, from the Botanical Garden. This species was originally introduced by Louis Van Houtte, in whose nursery at Ghent it flowered in 1849. It is of dwarf habit and remarkably distinct in the colour of its flowers. The sepals and petals are cinnamon-brown with a narrow yellow margin, brownish-green behind, the petals a little narrower and shorter than the sepals, the labellum gamboge-yellow, spotted with red-purple.

Sophrolæliocattleya Prince Hirohito.—This beautiful hybrid was generally regarded as the finest Orchid in the Chelsea Show of 1921, when it received a First-class Certificate, as well as a silver Lindley Medal for "Good and Scientific Cultivation." It was exhibited by the raisers, Messrs. Charlesworth & Co., and passed into the collection of Baron Bruno Schröder, Englefield Green, Surrey, where it has recently flowered for the sixth time. This noted collection is in charge of Mr. J. E. Shill who states that he has already raised no less than 1,500 seedlings from various crosses of Slc. Prince Hirohito. In one case it was crossed with a fine yellow-flowering Brassolæliocattleya, the results of which are being looked forward to with considerable interest.

Cattleya Empress Frederick.—A richly coloured variety of this hybrid between Mossiæ and Dowiana aurea was exhibited by Messrs. J. & A. McBean at the R.H.S. meeting of February 24th. On coming before the Orchid Committee the only suitable record for comparison was a painting of the variety Leonatæ, A.M., November 23rd, 1897, when shown by Messrs. Veitch. Although the variety staged by Messrs. McBean was of much richer coloration the Committee did not grant a further award, probably because some improvement was considered inevitable after a period of nearly 25 years. If the improvement had been effected in the course of a few months doubtless Messrs. McBean's plant would have received recognition.

Germination of Orchid Seed.—At the meeting of the Chambre Syndicale des Horticulteurs Belges and of the Société Royale d'Agriculture et de Botanique held February 1st, a First-class Certificate of Merit was awarded to Dr. and Mme. Ballion for their scientific demonstration of germinating Orchid seed by the nonsymbiotic method.

Phaius Tuberculosus.—An apparently successful method of cultivating Phaius tuberculosus was that practised some years ago in the collection of Mr. A. Sillem, Lawrie Park, Sydenham. The pots were large enough to allow the roots to spread freely in all directions, and were first filled to two-thirds of their depth with broken crocks and charcoal, then a layer of peat. On this the plants were placed, and around the stems the pots were filled to the brim with living sphagnum. By this arrangement the plants were in the same condition as they would be if growing on the surface of a bog, and this is probably their natural position. They could also be freely watered without getting sodden. The temperature of the house was 65—70 degrees, the sphagnum and compost being kept moist all the year round.

Phalænopsis Lueddemanniana. — Introduced from the Philippine Islands, by Messrs. Low and Co. in 1864, and named in honour of M. Lüddemann, of Paris, who was the first European cultivator to bring the plant into flower. The variability in the colour of the flowers of this species has been observed from the time of its first introduction. Flowers two inches in diameter, the sepals chestnut-brown with some narrow, pale yellow transverse streaks and whitish margin, the basal half with a broad amethyst-purple median band; the petals smaller than the sepals, bright amethyst-purple with whitish margin and with some chestnut-brown spots towards the apex; the labellum bright amethyst-purple with a pale margin. In the variety delicata the clustered stripes on the sepals and petals are narrow, the amethyst-purple confined to the base. The variety hieroglyphica has the sepals and petals cream-white covered with small cinnamon spots and markings. In the variety ochracea the stripes on the sepals and petals are light ochre-yellow. In the variety pulchra the upper part of the sepals and petals is port-wine colour, the lower part, as well as the lip and column, amethyst-purple, the transverse bars nearly obliterated.

THE FERTILISATION OF OPHRYS SPECULUM, O. LUTEA, AND O. FUSCA.

I WAS much interested in the article on "The Fertilisation of Ophrys speculum, O. lutea, and O. fusca," in the *Orchid Review* for March, especially as I have observed and collected these and other species of Ophrys in a number of localities in Algeria and the Riviera. The discovery of Mons. M. Pouyanne is of enormous interest, and its confirmation in respect to O. fusca by Colonel Godfery is very welcome. I, however, must come to the crucial point, viz., though Messrs. Pouyanne and Godfery have observed certain methods of fertilisation, the question cannot rest there, for two facts point strongly to additional means of insect fertilisation. Firstly, in a number of localities in Algeria numerous hybrids both secondary and primary between O. lutea, O. fusca, and O. speculum occur as well as between these and other Ophrys species; this proves almost with certainty that various insects, not only one species, visit these Orchids. Secondly, the observations of these gentlemen in connection with O. lutea and O. fusca point to two possibilities: either the visiting Hymenopteron proceeds with an unnatural sexual act (this appears most likely from Colonel Godfery's observations), or the Hymenopteron is a plant inhabitant, feeding on the future seed capsule. In either of these cases, involving as they do opposite sexes, the individual insect would not proceed to other flowers, and therefore fertilisation would not result. In the case of the false coition of the ♂, it would die, and in the case of the ♀ depositing eggs, it would mean that it would not proceed to other flowers after having selected the future home for its larval offspring. It is, therefore, very desirable for a good observer to visit stations in Algeria where hybrid Ophrys are frequent, such as the country between Hammam, Meskoutine, Guelma, and Bônee and thoroughly examine what insects visit the various forms. Otherwise it will never be finally ascertained if the methods of fertilisation observed, or apparently obvious from these observations of Mons. Pouyanne and Colonel Godfery, are the only methods of fertilisation or that, as in the case of other Orchids, various forms of insect fertilisation come into action. Finally, I may say that in Colonel Godfery's observations on O. fusca, supposing the Hymenopteron to be a plant feeder, it may be that the female deposits only a single egg in each flower, in which case fertilisation would be assured.

Tring Park, Tring. ROTHSCHILD.

ROYAL HORTICULTURAL SOCIETY.—Meetings will be held on April 7th and 8th, when Odontoglossums will be a special feature, and on April 21st and 22nd. Chelsea Show will open on May 19th.

ODONTIODA RUFUS.

THE flowering of the first Odontioda created an immense amount of interest when exhibited in the Temple Show of 1904. It marked the commencement of a very long series of crosses that were made with the express purpose of producing a scarlet coloured Odontoglossum through the use of Cochlioda Nœzliana, a dwarf-growing species with small flowers of a beautiful scarlet colour. Of the primary crossings of this species, two came quickly into prominence and soon proved valuable plants for breeding purposes: one was Odontioda Vuylstekeæ (C. Nœzliana × O. Pescatorei), and the other Oda. Bradshawiæ (C. Nœzliana × O. crispum). These early results were followed by many combinations of C. Nœzliana and the various Odontoglossums, both species and hybrids.

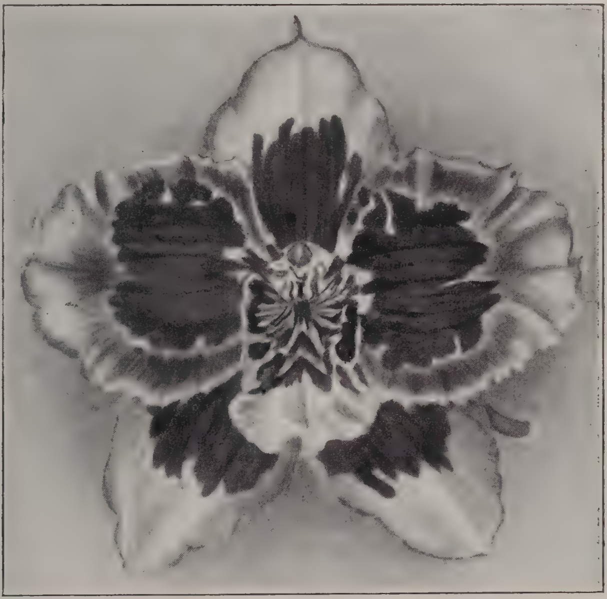
Just as O. crispum and O. Pescatorei have been the producers of many beautiful Odontoglossum hybrids, such as ardentissimum and eximium, so they have proved equally successful in combination with C. Nœzliana, and analyses of the parentages of our present day popular kinds show that both are still prominently represented. O. crispum is often tinged with rose, but O. Pescatorei is of a purer white and almost invariably produces hybrids in which any colour markings are of a brighter nature.

Six years after the appearance of the first Cochlioda hybrid, Odontioda beechensis was recorded as a cross between C. Nœzliana and O. Rolfeæ (Pescatorei × Harryanum), and brought the number of different Odontioda crossings to a total of about twenty. Odontioda beechensis is here of special interest for it was one of the parents of Odontioda Rufus (Oda. beechensis × Odm. crispum) raised in the collection of Geo. Wm. Bird, Esq., The Manor House, West Wickham, Kent, and first recorded in 1920. From the same batch of seedlings came the subject of our illustration—Odontioda Rufus var. Wickham Beauty, which was exhibited as an immature seedling with three flowers before the Royal Horticultural Society, February 27th, 1923, when it received an Award of Merit.

In addition to C. Nœzliana, the parentage of Oda. Rufus theoretically contains three Odontoglossums, viz., crispum, Pescatorei and Harryanum, but the latter seems to have been entirely deleted from the present example, for there is no evidence of it in the flower, except for a suggestive increase of the spiny nature of the crest on the labellum. As a white O. crispum was in this case used, the whole of the heavy red-scarlet blotching has been derived from C. Nœzliana, and this is the more remarkable when we take into consideration the broadly developed segments, for the experience of hybridists is that the inheritance of the scarlet colour is generally associated with the small segments of C. Nœzliana.

On the outer area of the segments, more especially on the petals, is a beautiful violet-rose suffusion, not unlike the violet tinge frequently seen in varieties of O. ardentissimum in which the crossing of O. Pescatorei with a blotched crispum caused the colour of the latter to spread over a wider area, but with diminishing intensity.

Odontioda Rufus var. Wickham Beauty ranks among the finest of the many Odontiodas, and when the plant reaches its full habit of growth we fully expect even finer results, not only in the number of flowers, but in richness of coloration.



ODONTIODA RUFUS VAR. WICKHAM BEAUTY.

CYPRIPEDIUMS.—A recent issue of *Gardening Illustrated* contains a letter from Mr. E. H. Woodall, who, writing from Brancolar, Nice, says:—" The Cypripediums always interest me, especially the hardier ones, which do so well outside here. Fairrieanum is the hardiest of all, as it stands heat as well as frost. Leeanum is less frost-proof, but villosum is especially hardy and vigorous. It and the best insigne are the ' standbys.' "

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ONCIDIUM BICALLOSUM.—A showy species without pseudo-bulbs, but producing a single dark green oblong leaf, which is remarkably thick and fleshy in texture, and keeled so as to become almost boat-shaped. The flower spike rises with the leaf from between some basal scales, and is erect. The individual flowers are large, yellow, tinged with green, the three-lobed lip of bright yellow. The plant is a native of Guatemala, where it was found by Mr. G. Ure Skinner.It flowered in England in 1842.

DENDROBIUM BRYMERIANUM.

JUST half a century has elapsed since the first flowering of Dendrobium Brymerianum in European collections, which took place in the garden of Mr. W. E. Brymer, of Islington House, near Dorchester. It was introduced by Messrs. Low & Co., in 1874 and described in the following year. It is the subject of a coloured plate in *Reichenbachia* (vol. ii, t. 92), with the following interesting story in connection with its introduction.

D. Brymerianum is a native of Burmah, and Orchid collecting in that country some years ago was by no means an agreeable occupation. The collectors had a warm time of it in more ways than one, owing to the rivalry of the missionaries established there, and who knew the value of Orchids to some extent. They did not accord a genial welcome to a stranger in search of them ; indeed, they forbade him to leave the town of Bhamo, and he was, therefore, obliged to hire natives to procure plants. It may be readily imagined that the collector was not always in the best of humour, having nothing to do all day long, but flying from one to another of the four gates, by which the town of Bhamo was entered, in the hope of seeing one of his agents approaching with the much wished for plants. The proceedings were enlivened when one of the said agents was intercepted just outside the gates, and had all his plants taken away from him.

These little incidents often led to anything but edifying scenes between the collector and the missionaries or their agents. However, some Orchids, among them D. Brymerianum, were sent to England, probably by the missionaries. No description being given, the plants were consequently sold cheap, nobody suspecting for a moment that anything remarkable was among them. Mr. Brymer was fortunate to obtain some of these, and we can understand his feelings when he saw the plant, which has imortalised his name in Orchid circles, open its extraordinary flowers, which are rendered remarkably distinct by the long, branching filaments of the lip. In the Spring the deep, golden-yellow flowers of D. Brymerianum are generally borne in fascicles of two and three near the top of the stem. It is nothing unusual, however, where there are many specimens, some of which may have been recently imported, to find this species in flower at nearly all seasons of the year. The stems or pseudo-bulbs are cylindrical and tapering at each end, more or less furrowed, according to age, and varying in height from one and a half to two feet, the young stems being clothed with lanceolate-acuminate leaves from two to five inches long.

D. Brymerianum var. histrionicum may be distinguished from the type by its shorter and stouter stems and smaller, dull-yellow flowers, the lips of which possess little or none of the extraordinary fringe which is the peculiar and interesting character of the true species.

ORCHIDS : A HOBBY.

MR. GEO. A. ROCK contributes to the January issue of *The Civil Service Magazine,* Kingston, Jamaica, an article entitled "Orchids: A Hobby," from which we extract the following:—No more delightful hobby can be conceived than the collection and cultivation of Orchidaceous plants. The pastime requires patience and great care in details if the cultivator is to achieve success. The rewards, however, are great and amply repay one. Imagine a cluster of beautiful blooms, each one six inches across, which, if kept dry, will remain in full beauty for a month or more.

The Orchidaceæ of Jamaica comprises 194 species, but unfortunately most of them possess botanical interest only, and are remarkable for the microscopic beauty of their flowers. There are, however, a few exceptions, such as the Broughtonias and the dainty Oncidium pulchellum and O. triquetrum, which are charming and delightful when well flowered.

A quaint conceit amongst Orchid growers lies in the manner of referring to an inflorescence; you will hear them say "I flowered Cattleya Trianæ," whereas the rose grower says "my roses are in bloom." This conceit has probably arisen because of the great difficulty in flowering certain Orchids in England.

Until recently there were but few people in Jamaica who interested themselves in Orchids, the late Dr. Henderson and Mr. D. L. Feurtado were pioneers, but to-day there is quite a band of enthusiasts amongst whom I may mention Messrs. A. and J. Henderson, Mr. Scarff, Mrs. Crowden, Mr. A. Pullar, Miss D'Costa, Mr. Noel Livingston and Mrs. C. Brandon—and the number is growing. The latest neophyte to join our order is the Hon. Horace Myers.

Tremendous interest attaches to the nomenclature of Orchids, which is somewhat appalling to the uninitiated. In reality the names are quite simple when one knows the reasons for them, and the cultivator feels personal friendship for his Orchids when he can call them all by name. When one has acquired a certain facility with a few names the study of them grows more and more fascinating.

It will be gathered from the foregoing that it is not easy to make a collection of showy Orchids in Jamaica, and so we enthusiasts import plants from England a few at a time. One can purchase almost any desired species and quite good plants can be secured at prices ranging from five shillings upwards. Most Orchids will travel well by parcel post if packed dry, the least moisture will ruin the contents of the whole box.

Some Orchids grow best in baskets, some in pots, others on logs. The cultivator soon discovers the treatment an Orchid likes best, for there is no plant in existence that so quickly resents wrong treatment and so readily shows its appreciation of conditions that suit it. A well cultivated Orchid is readily distinguished by its fine fat growths, abundance of root and the fresh stiff condition of its leaves.

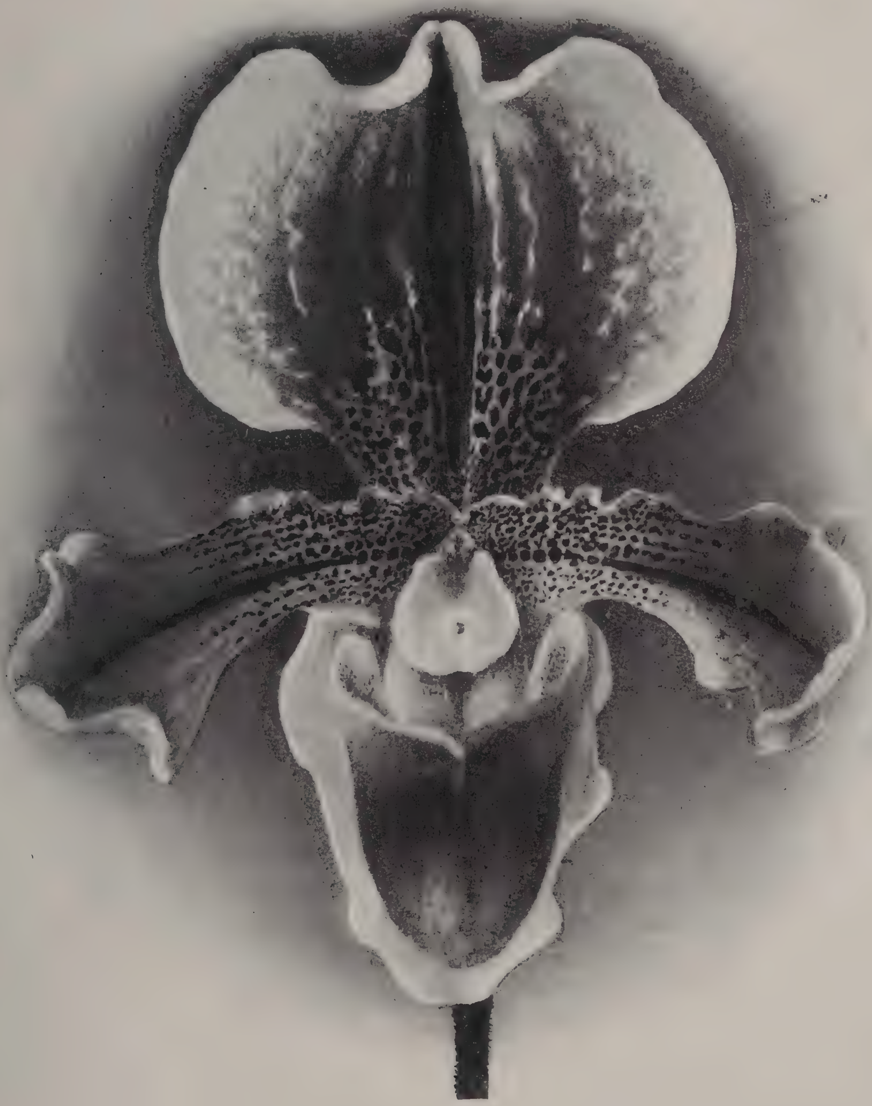
Orchid growing is like a disease which once caught seems to be incurable, But unlike disease it creates a bond of union amongst its votaries. No more delightful hour can be spent than when showing one's plants to a fellow enthusiast, or when visiting him to inspect his plants and to talk "Shop." On such occasions time flies, and often the long bow is drawn.

[The Editor has received from Mr. Geo A. Rock a photograph showing well-flowered plants of Cattleya Trianæ and Dendrobium and Epidendrum species. Teak wood baskets and ornamental earthenware pots are used for their cultivation.]

CYPRIPEDIUM WATERLOO.

FOR a Cypripedium flower to be considered of first-class rank, it must be well above the average size, and have all its segments developed to an attractive degree. Looking back upon the species which have been chiefly used in the production of our hybrids, it will be seen that in them the dorsal sepal is the segment which contains the attractive features. With respect to the popular C. insigne, amateurs of bye gone days applied distinctive names to all varieties possessing slight differences in the colour markings of the dorsal sepal. Typically, the dorsal sepal of this species is greenish, with the upper part white. Purple spotting is invariably present on the lower area, where the effect of the green colour causes it to have a brownish appearance, but in some varieties the purple spotting is extended to the white area, and there it appears clear and bright. In the early days, the varieties of C. insigne having bright purple spotting on the white area met with considerable appreciation.

Cypripedium Spicerianum is noted for its large white dorsal sepal, which has proved of immense value in the production of many fine hybrids. No more popular hybrid has been raised than C. Leeanum (insigne × Spicerianum). In some of the further matings the amount of purplish colour on the white dorsal sepal has been increased, one of the finest of all being Cypripedium Mrs. Wm. Mostyn, produced by crossing C. Leeanum with C. Calypso (Boxallii × Spicerianum), and for which the sum of £45 was given in 1901, a high figure at that period. Its dorsal sepal is white, but almost covered with bright purplish flushing. This suffusion of purple on a white ground also occurs in the Odontoglossum genus, as, for example, in O. ardentissimum (crispum × Pescatorei), in which the colour markings of a blotched crispum are considerably increased when mated with the white flowers of O. Pescatorei. Cypripedium Waterloo results from the crossing of Cyp. Mrs. Wm. Mostyn with C. rubescens, the latter composed of barbatum, villosum, insigne and Boxallii. In our illustration the dorsal sepal clearly shows the extent of the purple colouration, as well as the small greenish area at the base.



CYPRIPEDIUM WATERLOO.

TROPICAL ORCHIDS: THEIR HISTORY AND CULTIVATION.*

By E. R. Ashton.

IN the matter of Orchid cultivation there are perhaps more popular misconceptions than in any other form of plant culture. The generally accepted idea is that Orchids are plants with unpronounceable names and prohibitive prices. From the cultural point of view they are supposed to be difficult to grow, and to require great heat. Without going so far as to say that these contentions are entirely erroneous I maintain that they are largely exaggerated. I do not propose taking up the attitude of counsel for the defence, stating only the evidence likely to tell in favour of the defendant, but rather to adopt a judicial attitude, weighing up the various contentions for and against the Orchid as a plant for every-day cultivation.

In the first place it is essential to recognise that Orchids are not parasites, they do not extract nourishment from the trees to which they are generally found attached. They may be divided roughly into two sections: the terrestrial, of which the well-known Cypripedium is a good example, with a root system and habitat similar to the great mass of cultivated plants; and, secondly, the epiphytal, which attach themselves to rocks and the upper branches of trees; it is assumed that they have adopted this elevated position in order to raise themselves above the encroachments of the tropical jungle. They usually form two kinds of roots, one of which attaches itself firmly to the tree support and serves also to maintain the plant in its chosen position, and the other hangs down free from the trunk, which doubtless has given rise to the term "air plant."

The necessary amount of nutriment is obtained from the accumulations of leaves and decaying vegetable matter, which collect in the forks and cavities of the upper branches; the rain-water, trickling down the trunk of the tree, conveys the plant-food obtained from this source to the growing tips of the roots. The hanging roots also absorb a certain amount of nourishment from the emanations of the tropical jungle.

In studying methods of cultivation, considerable attention has been given to imitate as nearly as possible the conditions under which plants exist in their native habitat. There are, however, pitfalls in this method as an instance which came under my notice tends to prove. Messrs. Armstrong & Brown attached a healthy imported plant of Cattleya to the brick-wall of their corridor. The plant threw out an abundant crop of roots, which fixed themselves firmly to the wall, and it received the normal applications of rain-water. It grew and flowered for several years, but it gradually dwindled and died of starvation, the water being destitute of the necessary plant food. Under cultivation, therefore, some material supplying the missing qualities is necessary. The present-day practice is to place the plants in pots, about half filled with the washed and dried roots of various ferns, mixed with a certain proportion of sphagnum moss, no soil in the usually accepted meaning being used.

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*Lecture given before the Tunbridge Wells Natural History Society, February 20th, 1925.

Formerly peat of the best quality, from which the finer particles had been sifted out, was employed, but as the supply gradually became non-existant some substitute had to be found. Osmunda fibre, prepared from the roots of that fern, was first employed and still remains one of the most satisfactory mediums. Large quantities are imported from America in in compressed bales. Recently a fresh source of supply has been opened up in Japan. For varieties of plants with finer roots a softer fibre is desirable, and polypodium fibre is added. During the war these sources of supply were cut off, but by good fortune a somewhat limited supply was discovered in Wales and is marketed under the name A.1. Fibre. It is prepared from various forms of the Lastrea fern. The Belgians, who are the largest growers of Orchids on the Continent, used for some time semi-decayed leaves, collected in the woods and termed terre de bruyère. But difficulties in cultivation arose and the practice has been almost discontinued in this country. Messrs. Stuart Low & Co. used it very largely during the war, and it proved a valuable standby during that period.

The next factor to consider is the source from which Orchids are obtained, and it is important to point out that in recent years a complete change has taken place in this respect. Formerly large quantities were collected growing wild in the tropical and sub-tropical jungles and imported in a semi-dried condition. Now-a-days the raising of Orchids from seed in this country has reached enormous proportions, while the importations of wild Orchids have almost ceased, the cost of collection, and the poor prices obtained, make it unrenumerative. As the methods of cultivation of these seedlings is affected by the habitat of their immediate ancestors the scource from which the wild plants are obtained is an important consideration. The most fertile field of search is to be found in the northern half of South America. In the foot hills of the Andes in Colombia and Ecuador at an altitude of 5,000 to 10,000 feet will be found the home of the beautiful Odontoglossums and allied genera, the long arching sprays of white and spotted flowers of which are such an attractive feature of the London florist's windows. The large areas watered by the Orinoco in Venezuela, and the Amazon and various other rivers in Brazil, provide most of the gorgeous Cattleyas. In another part of the world, Assam and Burmah produce the Cypripediums and Cymbidiums; the same districts, and, in addition, the Indian Archipelago, the many forms of Dendrobiums. Numerous genera in smaller quantities are found in other parts of the world, but the above areas indicate the main source of supply. Up till shortly before the war immense quantities of these wild plants were imported into this country. The dried shrivelled plants sold by auction by Messrs. Protheroe & Morris, in Cheapside, and by Messrs. Stevens, in Covent Garden, attracting immense competition. Large numbers were bought as a speculation at comparatively small prices, in the hopes of obtaining a variety of great value, and some extraordinary cases of good fortune are on record. When these dried plants had been re-established in this country the specially fine forms were generally sold by auction when in flower and realised enormous prices. The boom took on much of the aspect of the black tulip mania in Holland, and reached its height towards the end of the last century and the early part of the present one. It is, however, well to remember that the proportion of choice varieties was very small, many hundreds, even thousands, being grown before the hoped-for treasure appeared. Interest was largely centered around Odontoglossum crispum and led to the so-called crispum boom.

Amongst the typical pure-white form varieties appeared with blotches of colour on the white ground, and these, if well marked, and the bloom of good shape, were much sought after. A gambling element was introduced which accounted largely for the fascination of this form of sport. In districts were two or more closely allied species were found growing together, a number of intermediate forms, or natural hybrids, appeared, the offspring of the pure-white species and the coloured forms. These crosses had been brought about by the activities of bees and other insects, which conveyed the pollen from one species to another, causing intermediate forms to appear. These hybrids were further crossed and re-crossed by insects during countless ages with the result that in importations a certain number of forms appeared bearing the characteristics in varying degrees of these different species.

One of the principal figures in the speculative period was Mr. William Pitt, of Stamford Hill, London. Perhaps the best known Orchid in cultivation is the variety of Odontoglossum crispum known as Pittianum. It first appeared among an importation at Rochford's nursery in the North of London. Mr. Walters saw it there as a half-opened flower, and as it appeared to have great promise he with difficulty obtained the offer of it on behalf of Mr. Pitt for 300 guineas, and the transaction was eventually completed at that price. Mr. Pitt grew on the plant, increasing it by division, and sold one portion of it by auction for £1,150, Messrs. Protheroe and Morris being the auctioneers, and the late Baron Schröder the purchaser. This is the highest price obtained for an Orchid by auction. Mr. Pitt realised a total of more than £4,000 from divisions of this plant, while still retaining a part of the original.

Another well-known variety in Mr. Pitt's collection is Odontoglossum crispum var. F. K. Sander, for which he paid a large sum. The small plant bore one flower, which he cut and carried in his button-hole to an important exhibition. Meeting there two famous Belgian Orchid growers, an amateur, M. Jules Hye de Crom, bid him £80 for the bloom in his button-hole, wishing to obtain it for the use of the pollen, but the offer was refused. A trade grower, Mons. Peeters, thereupon offered £100, but met with a similar refusal. This is, I think, a record for a cut flower.

Mr. Walters bought for himself, as a speculation, a small rather distinct looking piece of O. crispum in the imported state for 1s. 6d. By arrangement with a trade grower it was cultivated on a sharing basis. On flowering, this small piece proved to be an exceptionally fine variety, and passed into Mr. Pitt's collection for the sum of £1,000. The year being signalised by King Edward's victory in the Derby, the plant was named O. crispum Persimmon.

Probably the variety which most nearly competes in notoriety is Odontoglossum crispum Lucianii, well-known to all Orchid growers. This first appeared in Belgium amongst an importation, and was purchased there by a well-known English amateur, Mr. A. Warburton. For this variety, with two others, he paid the sum of £1,200. On his way home with his treasures he stopped the night at a Manchester Hotel. Being winter time the safety of the plants during the night was one of some difficulty, and the desirability of entrusting them to the care of the cook for the sake of the warmth of the kitchen was considered and finally rejected. In the end, the heroic measure was adopted of taking the plants to bed with him, where they passed the night safely in the natural warmth under the blankets.

One other instance I will give of a fortunate speculation in another genus. Miltonias are showy Orchids, with large flat pansy-shaped flowers. Among an importation one plant appeared with a large deep maroon-coloured blotch in the centre, giving it almost the appearance of a large butterfly settled on the flower. This plant was purchased by Sir Frederick Wigan for £100, and was subsequently increased by division. On his death the collection was sold by auction, and the three portions of this plant realised £1,750. From it an entirely new section has been raised. These are some of the stories that go to make up the Orchid history of those interesting times, but the days of such happenings are long past and no such instances of good fortune are likely to recur.

It may be interesting to refer briefly to the exploits of the collectors sent out by the big trade firms in those days to hunt for new and rare Orchids. One concerns the so-called Lost Orchid, Cypripedium Fairrieanum, much in request for hybridising purposes. It had become nearly extinct in cultivation, two small pieces only barely alive being known to exist and of priceless value. Messrs. Sanders thereupon offered a reward of £1,000 for the re-discovery of the home of this species and its re-introduction into this country. During one of the early expeditions to Tibet, a Cypripedium was found that proved to be the missing species, and Mr. F. Sander, the present head of the firm, told me recently that the reward was duly paid. He added, however, that almost at once other plants of it appeared on the market, and these were traced to a firm who, in perfect good faith, had obtained them from camp followers of the expedition. Messrs. Sanders were compelled to refund the price they had obtained from leading amateurs for what were supposed to be unique specimens.

Another species for which Messrs. Sanders sent out an expedition was Dendrobium Phalænopsis. Their collector found it in New Guinea, as the species evidently appreciates lime. The finest specimens were discovered in a grave-yard near the sea, many attached to bones and skulls. The natives only consented to the plants being sent away on condition that a favourite idol accompanied them. These specimens eventually reached Messrs. Stevens' Auction Rooms in Covent Garden, and amongst them was a skull with a living plant attached and also the favourite idol, both of which were duly disposed of by auction.

There remains at the present day one considerable area of the earth's surface which it is hoped may yield some important botanical treasures. The northern end of the large island of Sumatra, in the vicinity of Singapore, has long been the scene of intermittent hostilities between the Dutch, who nominally control most of the island, and the war-like native race of the Achinese. The interior of this district is known to be rich in tropical vegetation, which should include many of the Orchidaceæ, and is largely unexplored. Some year or more ago there was frequent reference in the Press to an expedition that was being fitted out by Dr. Cottle with the object mainly of searching for new forms of Orchids; the plan of action was an excellent and original one. A large ocean-going yacht was chartered, and it was proposed by this means to thoroughly explore the coast line of the Achin territory. Some sort of a truce having been patched up between the Dutch and the native tribes it was hoped to be able to land in unknown and unfrequented bays and inlets, and proceed a short distance inland. The project was an attractive one, as by this method districts could be explored that could be reached by no other means. Sad to relate, this proposal has not yet been put to the test. Those who are financially interested in the expedition next heard of it in British Guiana, a district that is very rich in Orchids, but which has already been thoroughly explored by the professional Orchid hunter for great distances inland. Although there is still little to be expected from the trained Orchid hunter, there is much that is attractive to the ordinary tourist in bringing home examples of the commoner forms of Orchids that are to be found in the vicinity of easily accessible tourist resorts.

The West Indies in particular present very favourable opportunities to the amateur collector. In the immediate neighbourhood of Kingston, Jamaica, I have found Epidendrum cochleatum, one of the first Orchids to be imported into Europe growing freely on the top of stone walls. The tall silk-cotton trees are usually covered with an abundance of adventitious growths and a fallen branch sometimes yields a rich spoil. In the vicinity of the beautiful Castleton gardens in the centre of the Island I obtained the rich red Broughtonia sanguinea, a species peculiar to the island, but unfortunately difficult of cultivation in England. I have also a vivid recollection of an expedition to the north of the island, and in the neighbourhood of Ocho Rios seeing a tall flower spike with long pointed blooms of yellow and purple, and my excitement in first seeing an Orchid of any distinction growing in a wild state. This I was able to bring home alive to Tunbridge Wells, it proved to be Brassia maculata.

Not far from Port of Spain, in Trinidad, I was able to find in the Maraval Valley the striking Oncidium papilio, the Butterfly Orchid. From the small plant, attached to the upper branches of tall trees, a long flexible flower stem is thrown out bearing at its point a single beautiful yellow flower, bearing a striking resemblance to the outstretched wings and antennæ of a butterfly. Poised at the end of its long flexible stem, and waving in the wind, the resemblance is really striking. In the northern part of Queensland, near Cooktown, I have less distinct recollections of collecting the Australian Dendrobiums found in that district.

Towards the end of the last century the difficulties that attended the raising of certain sections of Orchids from seed were gradually overcome, and it was found possible to raise the blotched Odontoglossums from seed; the market then suddenly collapsed, and prices are now at quite a reasonable level. With the rapid spread of raising seedlings, the importation of wild Orchids has almost entirely ceased, and interest is mainly centred in the hybridising of plants in cultivation. The cultivation of the young seedlings is one requiring some patience and careful handling. On an average they require from five to six years to reach the flowering stage. It is sometimes objected that this is too great a strain on one's patience, and the period of waiting too long, but the first five years having been surmounted, a yearly crop will be reaching flowering size to sustain the interest in this all-absorbing pursuit. It is this fascination of seedling raising that explains the present attraction of this branch of horticulture. In few other forms of plant culture is it possible to think out and invent entirely new flowers that have had no previous existence in Nature.

A species from one part of the world is mated with another from a distant source, producing a progeny that combines the good qualities, although it must be admitted that sometimes the defects of the two parents are also reproduced. These hybrids have proved fertile, and by careful selection of the finest of the seedlings a further advance to the third and fourth generations has been obtained. The little red Sophronitis grandiflora from Brazil has been mated with the large Cattleyas from Venezuela, and many Sophrocattleyas have been produced, bearing charming flowers of rosy-scarlet hue. The pale green Brassavola Digbyana, with its beautiful fringed lip, has been crossed with the purple Cattleyas, producing Brassocattleyas. The system of coining these compound names may seem involved, but the method is similar to that employed recently in naming the progeny of a lion and a tiger as a liger, or, as some say, it should be a tigon.

Another useful purpose has been obtained in raising forms that flower during mid-winter. The pollen of the autumn-flowering Cattleya aurea was preserved in a specially contrived glass tube and subsequently placed on the spring-flowering Cattleya Trianæ, producing Cattleya Maggie Raphæl, which flowers with great regularity and freedom during the intermediate period of Christmas time, when other Cattleya flowers are rather scarce.

Although the finest parents are always selected and a definite purpose held in view in mating them, among the countless thousands of seedlings large numbers appear that do not come up to the arbitrary standard set up by the expert, they have trifling differences of shape, size and colour which can only be detected by the connoisseur. This offspring of naturalised aliens, born and brought up in this country, have great natural vigour, and being acclimatised are well able to stand the vicissitudes of our changeable climate. To put it briefly, when healthy young seedlings of flowering size can be obtained for the price of five shillings and upwards I think it will be admitted that my claim that Orchid growing is not necessarily an expensive hobby has been well maintained. In fact, I like to compare it as an investment with a similar amount of money expended on say a motor car, which rapidly decreases in value and may be described as a wasting security. A collection of Orchids well selected and carefully cultivated should maintain an even increase in value. Good varieties may be increased by division and surplus plants exchanged or disposed of, whilst the collection, if well-known, should realise its full value if sold by auction.

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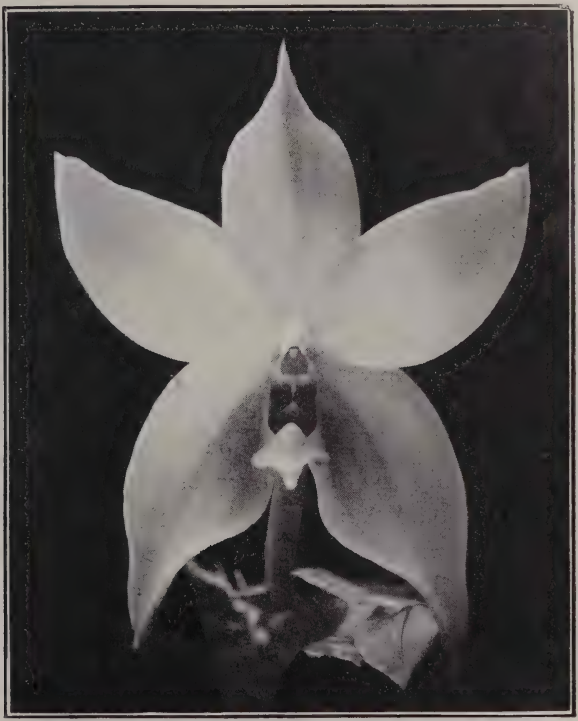
Chinese Orchids.—Original descriptions of ten new Orchid species from China, by Dr. Schlechter, have been published as Decas lxxvii. of Orchidaceæ novæ et criticæ in Dr. Fedde's *Repertorium specierum novarum regni vegetabilis*, xx., pp. 378-384.

PHALÆNOPSIS VIOLACEA.

THIS species was discovered by Teijsman, in Sumatra, and sent by him to the Botanic Garden at Leyden, in 1859, where it flowered for the first time in Europe, in 1861. The leaves are variable in size, broadly oval or elliptic-oblong, the largest 6-9 inches long, 3-4 inches broad, bright shining green. Flowers 2-3 inches in diameter, the dorsal sepal and petals similar, greenish white with a bright violet-purple blotch at the base, which sometimes spreads to beyond the middle; the lateral sepals having the inner half violet-purple to two-thirds of the length; the labellum has the front lobe bright violet-purple. The colour of the flowers varies, especially as regards the area covered by the purple, the following varieties have been described:—Murtoniana, lemon coloured, with purplish bars at the base of the lateral sepals; Schrœderiana, larger and more brilliantly coloured flowers; Bowringiana, light yellow flowers with purple markings at the base of the sepals and petals; bellina, resembling the variety Bowringiana, but without the blotch at the base of the sepals and petals; punctata, sepals and petals light yellow, white at the base, with a disc of small purple spots on the inside of the lateral sepals; chloracea, white, with purple disc on the lateral sepals, and green tips to the sepals and petals.



PHALÆNOPSIS VIOLACEA.

CULTURAL NOTES.

TOWARDS the end of March or by the beginning of April will be early enough to repot Thunias. These should still occupy a dry place in a light position in the Mexican House, taking care that they get but very little water. Of course, if either Calanthes or Thunias have previously been kept wet or otherwise unduly excited, so as to cause early growth, which is already perhaps two or three inches long, the above remarks will not apply, and in such cases they should be potted up earlier, taking great care that both are kept on the dry side afterwards until the new growth is well up, and the plants nicely rooted. Lumpy peat and sphagnum moss in equal proportions mixed together is good for Thunias; the pots should be about half filled with crocks, and four or five strong bulbs are enough for a 32 sized pot. They should always be grown fully exposed to the sun. Calanthes require a compost with a little more body; and a little fibrous loam and leaf soil may be added to the above. The pots should be half drained, the remaining half being filled up with the compost to within half an inch of the rim. Into this fix the bulbs, and support them with sticks, one to a 48 or two bulbs to a 32 sized pot.—*H. A. Burberry, March,* 1895.

DENDROBIUMS, as they pass out of flower, will need going through for potting and top-dressing. It is best to do a few at a time, as they pass out of bloom, and then one can easily keep pace with them, and they do not get left till "next year," which is often the case when they are left to be done in bulk, especially in a place where an Orchid staff is not kept, and other work comes along which also has to be done. The Cattleya mixture suits them well. Pot firmly and do not overpot them, as they like plenty of water in the growing season. A nice sunny position should be set aside for them, and if possible a house to themselves, otherwise the Cattleya house or some such position will suit them. They are not particular so long as they get plenty of sun, so that they can ripen as they grow, which is much better for them than the winter drought so much practised. Like Lælia anceps, Dendrobes do not seem to be such favourites as they were a few years ago, still for quantity of flowers and grouping there is nothing to beat them for spring flowering yet, as they last in flower such a long time without injury to the plants, and are very little trouble to grow. Red spider is about the only thing that seems to bother them, and if they are fumigated occasionally that need not happen, especially just after they commence to grow, when they have been grouped for effect for some time and have not perhaps received the best of attention.—*W. H. Morgan, April,* 1908.

LÆLIA GRANDIFLORA (majalis) often proves a difficult subject to keep in condition for any length of time. I find the most successful way to keep this species in good condition is to grow it in small pans, with just enough leaf-soil, peat and sphagnum moss about its roots to steady and secure it in position. Give liberal supplies of water when growing. It is rather a shy Orchid to bloom, and rarely does so until the bulbs have attained their maximum size, and even then they are apt to disappoint one. It is always advisable to keep them on the dry side until the new growths are an inch or two high, as the flower spikes grow simultaneously. It is useless, however, to withold water too long, for if the flower spike is not formed in the new growth during its early stages, no amount of drought will cause it to appear afterwards. It is an easy matter to tell a flowering growth early in the season—say about April or the commencement of May—by its swollen appearance. After this date all should be liberally treated with water, in order to encourage the making of fine large pseudo-bulbs.—*J. Mackay, March,* 1904.

VANDA DENISONIANA is better suited when grown suspended, and given a position in the hottest and most humid part of the stove. Most of the Aërides may be treated in the same way, a position in the coolest part of the stove being given.

VANDA CŒRULEA will likewise require more water now. The house in which this charming species should be grown must of necessity be one well supplied with fresh air. My best success was when I grew it in a fernery the whole year round; when growing, it was suspended over a tank, and after flowering it was placed in the dryest part of the house.

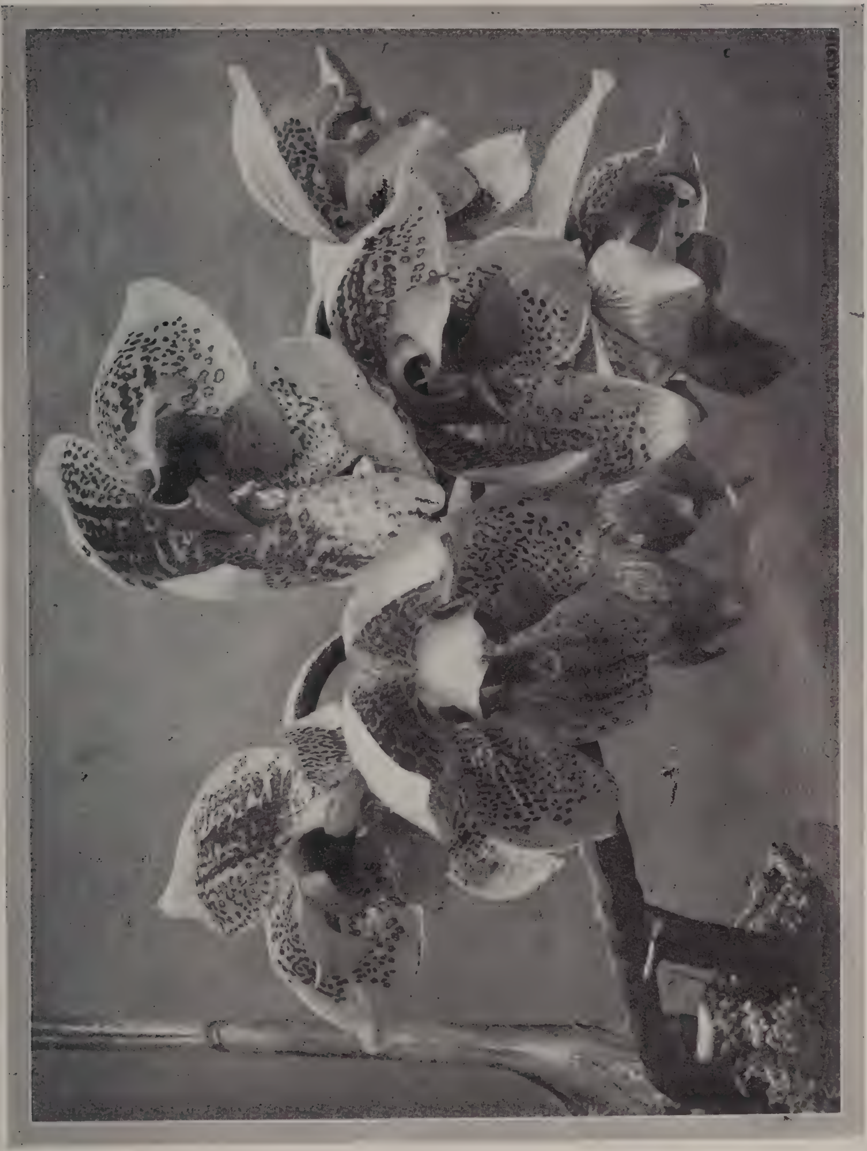
VANDA TERES should now be syringed freely. If the plants are being grown in the position they require, in a hot house, practically exposed to all sunshine, the flower spikes on many will be developing. After the flowers have expanded it is well to remove them to a house still hot, yet where they can be afforded shade till the flowering period is over.—*W. P. Bound, April,* 1907.

FLOWERS SPOTTING.—This is a frequent source of annoyance, the chief cause of which is the damp atmosphere necessary for the growth of the plants, and it is bound to occur as soon as the warmth from the pipes is discontinued during the nights. The only possible preventative is to maintain a slight warmth in the pipes with, at the same time, a gentle circulation of air. It is a pity to lose a fine show of Odontoglossums through spot, and the little warmth necessary to avoid such a loss can scarcely have any ill effect from a cultural standpoint for a few weeks while the chief show is on. This is where the usefulness of a show or flowering house comes in, which can be kept at the right atmospherical condition for preserving the flowers in a perfect state. Often one may see beautiful Cattleyas during the summer spoilt nearly as soon as they expand, only through the cool moisture at night, which, on the other hand, is so advantageous to growth. *H. A. Burberry, May,* 1901.

PHALÆNOPSES commence to make new roots this month, or early in May, and will therefore soon require attention. Teakwood baskets, or cylinders, undoubtedly form the best receptacles, and unless these are in any way decayed, there will be no necessity to disturb the roots, which will be attached to the bars. Remove as much of the compost and drainage as is permissible, using a pointed stick for this purpose, then thoroughly cleanse the roots and the rest of the drainage, by immersing in tepid rain water, then renew the drainage, and finish off with cleanly picked living sphagnum moss, making this moderately firm at the base of the plants. Having finished the potting, afford the plants tepid rain water copiously, and shade rather heavily plants that have been disturbed. Avoid a stuffy atmosphere at all times by giving the necessary amount of warmth and a genial humid air, so that growth may be free, healthy and strong.—*J. Mackay, April*, 1902.

ONCIDIUM macranthum, lamelligerum, superbiens, zebrinum, and Leopoldianum I find always grow best treated as cool house Orchids, and exactly the same as the cool Odontoglossums. They love the cool moist atmosphere, the air, and the shade which that house affords them. Another well-known and greatly admired species is O. tigrinum. This generally, also, does very well potted up and subjected to the same treatment, though in this case an improvement is no doubt effected in the long run by giving it a trifle more wamth during the long winter months. O. cheirophorum and O. ornithorhynchum, two neat and pretty species, may also be similarly spoken of, as also may O. cucullatum and O. c. Phalænopsis. The pretty little climbing species, O. Limminghei, must be supplied with a neat raft to correspond, and is best grown in the warmth of the intermediate house the whole year round.—*H. A. Burberry, April*, 1899.

VANDAS AND AËRIDES will now require more water directly, and the general surroundings should be kept in a humid state. Spikes will now be apparent on some varieties, such as V. suavis and V. tricolor, yet if it is necessary to renovate the surface material or even to renew the compost down to the crocks no harm will be done in carrying this out. Work out all the old soured material carefully. Many growers only use moss, but I prefer working in some good fibrous peat with it, though the actual surface may to advantage be all moss, the aërial roots should be guided to the pot, and not allowed more than possible to go to any angle. Plants that have a considerable amount of bare stem and no roots should have moss tied round the stems, to try and induce the roots, so that at some future time the basal part may be cut away, by which lowering the leaves are brought down close to the base. The most shady position should be chosen, with Cattleya house temperature. If it is possible to place them where they have walls at the back and sides so much the better. The foliage and flowers are apt to be disfigured by attacks of thrip.



HOULLETIA WALLISII.

HOULLETIA WALLISII.

THE genus Houlletia commemorates the name of M. Houllet, the discoverer of the type species in Brazil, who after his return to France was appointed Curator of the Jardin des Plantes at Paris.

The subject of the accompanying illustration is Houlletia Wallisii, originally described in 1869 from materials collected by Gustav Wallis.

Two years later this same species was described as H. chrysantha, from a plant collected by Wallis in the Colombian province of Antioquia, and introduced by him to M. Linden's establishment at Brussels, where it flowered in 1871. In 1877 H. Wallisii var. odontoptera was described by Reichenbach from flowers collected at 8,000 feet elevation at Frontino; these differed from the type in having some rough teeth on the side lobes of the lip.

After being lost sight of for many years, H. Wallisii re-appeared in cultivation in 1911, when it flowered with Messrs. Charlesworth & Co. who had previously obtained the plant from the Cattleya Dowiana aurea district. It was exhibited by them at the meeting of the Royal Horticultural Society held August 29th, 1911, when an Award of Merit was given. The spike bore seven flowers, of deep buff-yellow colour, with numerous red-brown blotches on the sepals and petals, and in some cases a blackish-red blotch on the base of the lip. On September 12th, 1912, Messrs. Charlesworth exhibited a finely cultivated plant bearing four spikes of flowers, and showing this species at its best.

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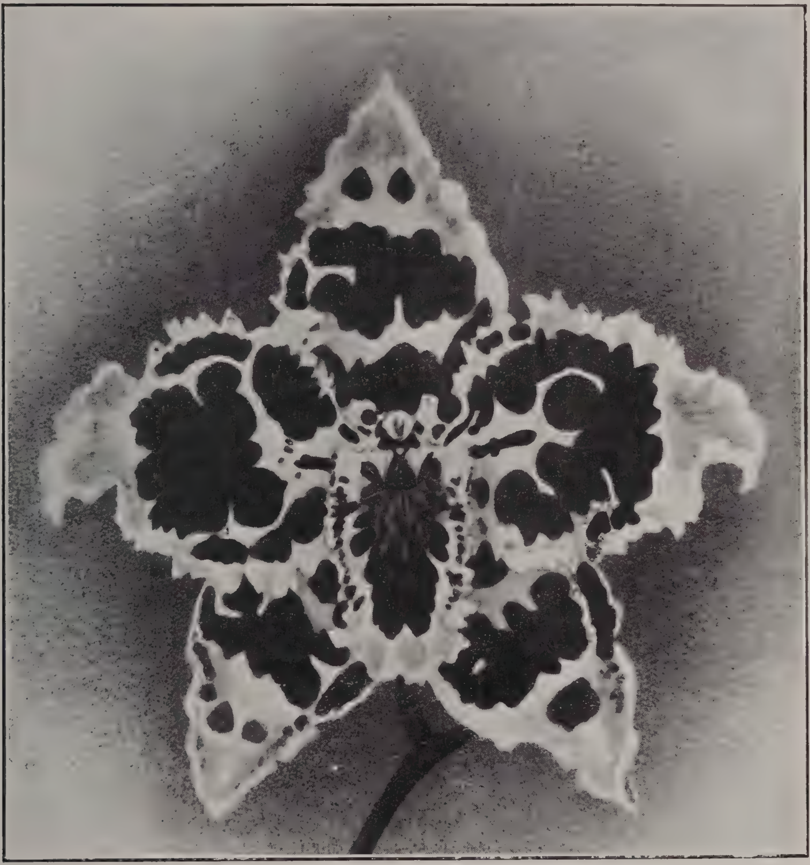
Saccolabium miniatum.—Introduced from Java in 1846 through Thomas Lobb. It is very near to S. curvifolium, but may be distinguished by its smaller size, shorter and narrower leaves, and its shorter racemes of smaller flowers with differently shaped segments.

* * *

Oncidium hians.—One of the most curious species of Oncidium that has ever come under our notice, state Messrs. Veitch in their *Orchid Manual*, although not one that will receive much favour from amateurs. The structure of the crest is peculiar, and which Lindley not inaptly likened to the four fingers of the hand hollowed out and closed together; this extraordinary organ is as long as the fanciful resemblance of a gaping mouth which suggested the specific name. It was first introduced in 1838 from the vicinity of the gold mines in Brazil (Ouro Preto ?), by Rollisson of Tooting, but seems to have been lost to cultivation for many years. The crest of the labellum has, without doubt, been developed at the expense of the front lobe, which is reduced to a very narrow blade. Its importance in the economy of the plant is, however, evident, for an insect visiting the flower would be more likely to alight on the prominent crest than on any other organ as the easiest, if not the only means of approach to the base of the labellum where honey would be secreted. In returning it could scarcely fail to touch the sensitive rostellum, and carry away the pollinia which the insect on alighting on another flower in the same way would certainly deposit on its stigma, and thence its fertilisation would be effected. An insect less than the common house fly would be sufficient to accomplish this.

ODONTOGLOSSUM MIRANDUS.

When importations of Odontoglossum crispum were obtained in quantity and grown on to the flowering stage in European collections there appeared now and again a few varieties with spotted flowers, in rarer instances the spotting was confluent and took the form of heavy blotching. These varieties were natural hybrids, mainly produced through the influence of O. luteopurpureum, and of which O. Wilckeanum is a familiar example. In course of time Odontoglossum hybrids were raised in Belgium and England, when the quantity of spotted and blotched varieties became much increased, while the quality, both as regards formation and colour, was considerably improved. Odontoglossum Mirandus represents one of these improved forms, and although the parentage is not recorded, it was probably produced by crossing O. crispum with a fine variety of O. Wilckeanum.



ODONTOGLOSSUM MIRANDUS.

NEW HYBRIDS.

NAME.	PARENTAGE.	EXHIBITOR.
Brassocattleya Eudora	C. Enid × Bc. Marguerite Fournier	Stuart Low.
Brassocattleya Warnham Beauty	Bc. Digbyano-Mossiæ × C. Tityus	C. J. Lucas, Esq.
Brassolæliocattleya Dr. Barbier	Bc. Vilmoriniana × Lc. Lucasiana	M. Maron.
Cattleya Edith	Mossiæ × Jupiter	J. & A. McBean.
Cattleya Jupitus	Edith × Tityus	,, ,,
Cymbidium Astra	rosefieldense × Schlegelii	Stuart Low.
Cymbidium Blanche	Alexanderi × Queen of Gatton	Sir J. Colman.
Cymbidium Roger Sander	Gottianum × Sibyl	Sanders.
Cypripedium Aureoma	aureum × Desdemona	P. Smith, Esq.
Cypripedium Bandemona	Bantam × Desdemona	,, ,,
Cypripedium Gundo	Carola × villosum	,, ,,
Dendrobium Huia	Alpha × Cybele	Sir J. Colman.
Læliocattleya Cresta	Lc. Goldcrest × C. Snow Queen	Sanders.
Læliocattleya Sheila Beddington	Lc. Britannia × C. Clotho	Sir H. S. Leon.
Odontioda Argus	Odm. eximium × Oda. Sibyl	C. Cookson, Esq.
Odontioda Florida	Odm. Lilian × Oda. Dulcies	Charlesworth.
Odontioda Saphira	Odm Jasper × Oda. Alcantara	,,
Odontoglossum Dagonet	Radiant × St. James	,,
Odontoglossum Elmar	Crethus × St. James	,,
Odontoglossum Florida	plumptonense × St. James	,,
Odontoglossum Lustre	McNabianum × ardentissimum	Stuart Low.
Odontoglossum Magnet	Lambeauianum × Lakiniæ	,, ,,
Odontoglossum Marida	Ida × Mars	J. & A. McBean.
Odontoglossum Megan	King Arthur × illustrissimum	,, ,,
Odontoglossum Omar	Princess Mary × Sambo	,, ,,
Odontonia Crusader	Odontonia Dora × O. crispum	Charlesworth.
Odontonia Hesperia	M. Bleuana × O. Aphrodite	,,
Sophrolæliocattleya Heatherwood	Lc. Serbia × Slc. Mem. J. Charlesworth	Flory & Black.
Vuylstekeara Aurora	M. Bleuana × Oda. Meteor	Charlesworth.
Vuylstekeara insignis var. Minerva	Oda. Charlesworthii × M. Bleuana	,,

CYMBIDIUMS AT TUNBRIDGE WELLS.

CYMBIDIUMS are what one may truly assert to be the Orchid for the amateur, their easy culture, moderate requirements of temperature, graceful habit, freedom in flowering, and, most pleasing of all these good points, their lasting qualities, rendering them most useful. During recent years remarkable strides have been made, and when one recalls what this section was some 25 years back, the progress made is very striking. It is not many years back when we depended mostly on the species, such as C. eburneum, with its twin-flowered spike, Tigrinum, Devonianum, Lowianum, Tracyanum, etc. With all these species intermingled we now find a remarkable congregation of hybrids that secures for them a foremost position in the history of Orchids.

At Messrs. Armstrong & Brown's establishment one may see a collection that is fully representative of all the best species and hybrids, comprising some 200 specimens. These have been in flower for a considerable time, and bid fair to last for another two months. The numerous hybrids in spike comprise C. Gottianum, Alexanderi, very variable, the exquisite Sybil, white with a lemon-coloured blotch on the lip, and various forms of Pauwelsii, on one of which I noted 25 blooms. Another hybrid has a beautiful shade of yellow, while still another attractive flower exists in Diana (eburneo-Lowianum × Pauwelsii).

Scarcely a new Cymbidium hybrid now appears without C. insigne in the parentage. Examples may be seen in Ceres, and in another between Vega and insigne. One stops at cataloguing, but enough has been said to show what a charming picture is presented, and one that is not soon forgotten. To sum up, the colours and tints range from albinism through creams, yellows, browns, rose and chocolate hues. Moreover, many possess an agreeable perfume. H. A. FARMER.

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ROYAL HORTICULTURAL SOCIETY.

February 24th, 1925.

MEMBERS of the Orchid Committee present :—Frederick J. Hanbury, Esq. (in the Chair), Messrs. Gurney Wilson (Secretary), R. Brooman-White, Jas. O'Brien, E. R. Ashton, T. Armstrong, Stuart Low, John Cowan, A. McBean, C. H. Curtis, H. H. Smith, Clive Cookson, H. T. Pitt, H. G. Alexander, J. E. Shill, and F. K. Sander.

AWARDS OF MERIT.

Læliocattleya Sheila Beddington (Lc. Britannia × C. Clotho) ; from Sir Herbert S. Leon, Bart., Bletchley Park, Bucks. This plant bore two large flowers, having the petals broadly developed, of light rose colour, the handsome labellum rich purple, prettily crisped at the margin and with the throat yellow.

Cymbidium Redshank (insigne × Redstart) ; from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury (gr. Mr. H. G. Alexander). A charming hybrid with a spike of eight white flowers, the labellum having the side lobes lined with crimson and with a suffusion of similar colour on the front lobe.

Cypripedium Robert Paterson var. Brilliance (Eurybiades × Memoria F. M. Ogilvie) ; from Messrs. Flory & Black. A handsome flower, the dorsal sepal having a white ground profusely marked with confluent spotting of crimson colour, and with a dark purplish vertical line in the centre, petals unusually broad, and with the labellum yellowish, stained with mahogany-red.

Dendrobium Miss Florence E. King (nobile nobilius × Artemis) ; from F. J. Hanbury, Esq., Brockhurst, East Grinstead. An elegant hybrid in the nobile section. Flowers deep purple with a crimson tinge, labellum with an intense crimson blotch on the basal area, around which is a narrow whitish border, the apex purplish.

GROUPS AND OTHER EXHIBITS.

A Silver Banksian Medal was awarded to F. J. Hanbury, Esq., Brockhurst, East Grinstead (gr. Mr. Matthews), for an extensive group of Dendrobium hybrids. The back part was filled with vigorous plants of D.

Gatton Monarch, to which a First-class Certificate had been previously given, while in front were fine examples of D. Miss Florence E. King, Leeanum, Ainsworthii and Creole. D. Chessingtonense was represented by selected varieties, and many others showed to advantage, including some unnamed seedlings of promising character, of which nobile × Kenneth may be mentioned.

Messrs. Sanders were awarded a Silver Banksian Medal for an attractive exhibit, containing several meritorious Dendrobiums, a well-flowered plant of Maxillaria luteo-alba, Oncidium Papilio and Cymbidium Martin var. Gold Shower, with flowers of golden-yellow. Among the Cattleyas were distinct varieties of Furnes and Zephyr, while Læliocattleyas were seen in Erica Sander, white with a purple lip, and Royal Sovereign, of cinnabar-red.

Messrs. Stuart Low & Co. received a Silver Banksian Medal for a group, in which Cymbidium Alexanderi with several spikes of bloom occupied the centre, while on each side were Dendrobiums and various Oncidiums. Odontiodas comprised Wilsonii and Cooksoniæ, and Odontoglossums were staged best in Hyeanum and round forms of crispum. Odontoglossum Sanderianum carried a spike of numerous flowers, small, but strongly scented.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Banksian Medal for an interesting exhibit, the chief attraction being some thirty plants of Epidendrum Endresio-Wallisii, the grouping of so many examples of this pleasing little hybrid creating quite a change from the general run of exhibits. Other noteworthy plants were Lycaste Skinneri alba, Cypripedium Hurrellianum, with a tall spike, various Masdevallias and a selection of well-flowered Dendrobiums.

Messrs. Flory & Black were awarded a Bronze Banksian Medal for a group of choice Cattleyas and Cypripediums. Among the former were C. chocoensis alba, with pure-white flowers of round formation, C. Dr. M. Lacroze, in which the labellum was of bright purple, and C. G. P. Walker. Cypripedium Golden Wren again proved attractive, while a novelty was staged in Sophrolæliocattleya Heatherwood, of rose-crimson colour. Dendrobiums in various varieties were also included.

Messrs. Cowan & Co. staged two fine examples of Brassocattleya British Queen, as well as of Cattleya Tityus, with roundly formed segments. Odontoglossum Margarita bore a couple of large flowers with violet-purple blotching, and Cypripediums were well represented by Ursus and Pyramus. Dendrobium Austinii superbum carried large flowers of the nobile type.

Messrs. J. & A. McBean showed Cattleya Empress Frederick, with a spike of three flowers of intense rose-purple colour, the throat veined with gold.

Baron Bruno Schröder showed cut flowers of the beautiful Sophrolæliocattleya Prince Hirohito, of ruby-crimson colour.

Geo. Wm. Bird, Esq., Manor House, West Wickham, exhibited Odontioda Rufus var. Wickham Beauty, with a spike of three finely developed flowers, rose tinted and heavily blotched with scarlet.

Lieut.-Col. Sir George Holford showed Cymbidium Flamingo (Alexanderi × Merlin), with an erect spike of roundly formed flowers.

R. Gerrish, Esq., Milford Manor, Salisbury, exhibited Odontioda Lerna, Gerrish's variety, with a spike of nine flowers of chocolate-red colour, the lip margined with white. Also Odontioda Joan.

March 10th, 1925.

Members of the Orchid Committee present: C. J. Lucas, Esq. (in the Chair), Messrs. Gurney Wilson (Secretary), E. R. Ashton, T. Armstrong, S. W. Flory, A. Dye, J. Wilson Potter, Jas. O'Brien, W. J. Kaye, W. H. Hatcher, C. H. Curtis, H. H. Smith, H. G. Alexander, J. E. Shill, F. K. Sander, A. McBean, John Cowan, Stuart Low, H. T. Pitt, Clive Cookson and F. J. Hanbury.

First-class Certificates.

Miltonia Beau Brummell, Pitt's var, from H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. A very pretty form of this hybrid between M. Venus and M. Bleuana var. Reine Elizabeth. The young plant bore a couple of flowers, deep rose-purple, the labellum freckled with light spotting.

Cymbidium Flamingo roseum (Merlin × Alexanderi), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury. The erect spike bore four flowers of large size and resembling in formation the flowers of Cattleya Loddigesii. Of light blush-rose tint, the labellum having light crimson markings, the column deep rose colour.

Awards of Merit.

Cymbidium Miranda, Westonbirt var. (Alexanderi × Lowio-grandiflorum); from Sir George Holford. A showy plant with a spike of 21 large yellowish flowers, the white labellum having crimson-red lines on the side lobes and a blotch of the same colour on the front lobe.

Cymbidium Bullfinch var. Brilliant (Alexanderi × Garnet); from Sir George Holford. The spike carried seven flowers, of yellowish colour, but almost covered with reddish-rose lines and suffusion, the labellum white, with the front lobe crimson.

Cymbidium Tityus (Woodhamsianum × insigne); from Messrs. Armstrong & Brown. An attractive plant carrying a total of 16 creamy-white flowers, the labellum rendered attractive by bright crimson-red markings.

Cattleya Jupitus (Edith × Tityus); from Messrs. J. & A. McBean.

An excellent hybrid in which the flowers are compactly formed with broadly-developed segments, the petals crisped at the margin. In colour rose-purple, the labellum much darker.

Cymbidium Alexanderi, Overlea var.; from Messrs. J. & A. McBean. This plant bore two arching spikes with a total of 19 flowers, blush-pink, the labellum having a few reddish markings and the column rose-tinted.

Læliocattleya H. T. Pitt var. superba (C. Enid × Lc. Bella); from Messrs. Flory & Black. A pleasing flower of fine formation, in colour rosy-mauve, the expansive labellum rich crimson and with a yellowish disc on each of the side lobes.

PRELIMINARY CERTIFICATE.

Odontoglossum Mirida (Ida × Mars); from Messrs. J. & A. McBean. An immature seedling with a couple of large flowers, white ground, blotched with purple-brown.

GROUPS.

Messrs. J. & A. McBean were awarded a Gold Medal for an exceptionally fine exhibit of various Orchids. Attractive plants were seen in Cattleya Cowaniæ alba, with extra large pure-white flowers, in C. Tityus, of fine colour, and in the new C. Jupitus. Cymbidiums occupied the central position, and comprised good examples of Beryl, Alexanderi and Castor, the latter of yellow colour. Cypripedium Rothschildianum and C. Maudiæ were in fine condition, as also were Lycaste Skinneri and several Odontiodas. Among the Læliocattleyas were choice examples of Beatrice, with spikes of four flowers, Jessamine, of yellow colour, Euripiades, bright yellow, and Schrœderæ. Odontoglossum Pescatorei made a good show with its many flowered spikes, while O. Miguelito var. Conquest, with richly coloured flowers, and O. Dictune also came in for due appreciation. Excellent cultivation was seen in all the plants.

Messrs. Sanders received a Silver-gilt Banksian Medal for a large group containing many well-flowered Cymbidiums, noteworthy plants being Pauwelsii, Ringdove, Nelly, Swallow var. Sunset, of rose-pink colour, and Ceres, a fine example with three tall spikes, the flowers of salmon-red colour. In the centre was a specimen plant of Cœlogyne cristata alba, covered with white flowers, and along the back Dendrobium Wardianum album and Oncidium pubes. Læliocattleya Louvain had three pretty flowers, and there was a distinct form of Lc. Zephyr alba. In front were Miltonia cuneata, with an atttactive white labellum, the pretty Cirrhopetalum picturatum, Bulbophyllum Gargantua and Odontoglossum Jeanette, of violet rose colour.

Messrs. Charlesworth & Co. were awarded a Silver-gilt Banksian Medal for an interesting exhibit containing Cattleya Enid alba, with a spike of four white flowers, C. Ultor, and selected forms of C. Trianæ. A pleasing hybrid was staged in Odontioda Charlesworthii cuprea, with copper-coloured flowers, and another in Oda. Ganesa with a spike of 52 flowers. Odontoglossum majesticum bore a spike of 50 flowers, while O. Wilckeanum var. Miss Louisa Fowler had flowers of unusual size. Well-flowered examples of Maxillaria luteo-alba, also Miltonioda Harwoodii, with 14 flowers, came in for appreciation, as also did the pretty Vuylstekeara Thera. The rare Catasetum pileatum had a central position, and Miltonia hybrids were well represented by Venus. Cypripedium Emerald (Maudiæ × Curtisii Sanderæ) and the rare Pholidota convallariodes alba were also staged.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury (gr. Mr. H. G. Alexander), was awarded a Silver-gilt Banksian Medal for a selection of choice Cymbidium hybrids. The twenty plants staged included Cygnet, of flesh colour, the labellum yellow; Yellow Hammer, bronze, with crimson front lobe of the labellum; Flamingo roseum; Goosander var, exquisitum, and Redstart var. elegans. All the plants showed a high state of cultivation, while the numerous flowers were developed to their finest extent.

Col. Stephenson R. Clarke, C.B., Borde Hill, Cuckfield, Sussex (gr. Mr. Wilson), received a Silver Banksian Medal for an attractive group of Dendrobiums comprising the best varieties of nobile, such as nobilius, Cooksonii and giganteum. D. superbum was well flowered, and pleasing hybrids were seen in D. Ainsworthii, Cybele, Luna and Clio. Yellow Dendrobiums were well represented by Thwaitesiæ, of which Veitch's variety is still the best, and by chessingtonense, in which the flowers are deep yellow. D. crassinode, with its thick stems, was also included.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N., received a Silver Banksian Medal for a group in which the central position was occupied by Odontoglossum St. James, with a spike of ten large flowers of purplish colour. Near by was O. cirrhosum, Pitt's var., still the best of its kind, and O. crispum var. Oakwood Ruby, a reminder of former days. Miltonia William Pitt and M. Beau Brummell were in excellent condition, while rareties were seen in Lycaste hellemensis, Stelis micrantha and Cirrhopetalum Mastersianum. Cymbidium species were represented by Devonianum and hybrids by three varieties of Cymbidium Lady Colman. Maxillaria luteo-alba and the pretty Epidendrum Endresio-Wallisii were also included.

Messrs. Cowan & Co. were awarded a Silver Banksian Medal for a well arranged exhibit containing the massive Brassocattleya British Queen, with flowers of rose-pink colour, Cattleya Freda Sander, with pure-white flowers, and Læliocattleya Ian, of rich rose colour. Cymbidiums were best represented by Capella, greenish, Gottianum, and a good strain of Pauwelsii. Odontioda Hanmeræ bore deep reddish flowers, Miltonia

Bleuana flowers of large size, while at each end were vigorous plants of Dendrobium atro-violaceum, with numerous flowers.

Messrs. Stuart Low & Co. received a Silver Banksian Medal for an exhibit containing the richly coloured Oncidioda Cooksoniæ, the scarce Eria globifera and various Odontoglossums, of which one named St. Peter stood out prominently. Odontiodas were numerous, the best being Euterpe, Laura and Trebizond. Cymbidiums included Lowgrinum, of dark colouration, while Brassocattleya Mirabilis, with white sepals and petals, and Bc. Maguerite Fournier bore large flowers.

Messrs. Flory & Black staged Odontoglossum crispum, a fine variety with a pretty spike of eleven flowers, also Læliocattleya H. T. Pitt var. superba, which gained an Award of Merit.

Messrs. Armstrong & Brown exhibited Cymbidium Gottianum, with large white flowers, the labellum slightly spotted.

MANCHESTER ORCHID SOCIETY.

February 20th, 1925.

OWING to the severe weather the exhibits were not so numerous on this occasion. Members of the Committee present: D. Losh Thorpe, Esq. (in the Chair), Messrs. A. Burns, A. Coningsby, D. A. Cowan, A. G. Ellwood, A. Keeling, J. McCartney, E. W. Thompson, and H. Arthur (Secretary).

First-class Certificates.

Odontoglossum crispum var. Rosy Dawn, of fine formation, white, the petals of rosy tint; from S. Gratrix, Esq.

Odontoglossum crispum var. Purity, a beautiful round flower, sepals and petals of the purest white, labellum flat and with reddish-brown crest; from Mrs. Gratrix.

Awards of Merit.

Cypripedium Gundo (Carola × villosum), and Cypripedium Aureoma (aureum × Desdemona); from P. Smith, Esq.

Other Exhibits.

Messrs. A. J. Keeling & Sons, Bradford, staged Cypripedium Tom Worsley, C. Princess Patricia, various Miltonia hybrids, and some pleasing Odontiodas.

March 6th, 1925.

Members of the Committee present;—Rev. J. Crombleholme (in the Chair), Messrs. A. Burns, A. Coningsby, J. Cypher, J. Evans, W. Giles, A. Keeling, and H. Arthur (Secretary).

Awards of Merit.

Odontioda Grenadier var. Empire and Odontoglossum crispum var. Sunset; from Mrs. Gratrix.

Cypripedium Toy (parentage unknown); from S. Gratrix, Esq.

Dendrobium variabilis, Bolholt var.; from Capt. Horridge.

Cultural Certificates.

Mr. A. Burns, for Cymbidium Alexanderi var. Radiance.

Mr. G. Giles, for general excellence of plants in group.

Groups.

S. Gratrix, Esq., was awarded a Silver-gilt Medal for a group of Dendrobiums in variety.

Mrs. Bruce and Miss Wrigley were awarded a Large Silver Medal for a group of Dendrobiums in variety and Cymbidiums.

A. Hanmer, Esq., received a Large Silver Medal for an exhibit of choice Cypripediums, Odontoglossums, and Odontiodas.

Capt. W. Horridge staged Dendrobiums.

Messrs. Cypher & Sons received a Silver Medal for a group of Dendrobiums in variety, as well as Cymbidiums and Cypripediums.

Messrs. Charlesworth & Co. exhibited choice Odontoglossums and Odontiodas.

Mr. J. Evans staged Dendrobiums, as well as Cypripedium Pyramus, C. Dowleri, and C. Ernest Read.

THE ORCHID CLUB.

THE Meeting of the Orchid Club on March 13th was noteworthy for a wonderfully fine display of Cymbidiums and Dendrobiums. The President, Lieut.-Col. Sir George Holford, K.C.V.O., was present to meet the members of the Club. The following awards were given to plants from the Westonbirt collection:—

Premier Diplomas.

Cymbidium Alexanderi, Westonbirt var. This plant bore an upright spike of six large and well-formed flowers of great substance. Sepals and petals white, labellum well displayed, white, with a zone of crimson blotches.

Cymbidium Miranda, Westonbirt var. A magnificent spike of 21 large, well-formed and elegantly displayed flowers. Sepals and petals of a greenish-golden hue, the labellum well displayed, white, with marginal crimson band.

Cymbidium Flamingo var. roseum. A seedling plant flowering for the first time. The spike bore five flowers, having the rounded form of the

Merlin parent. Sepals and petals white, flushed with rose, suggestive of apple blossom tints, the lip large, white, flushed with a zone of dark rose colour. It is probable that when mature this variety will develop an elegant spike.

Cymbidium Redshank. The spike bore eight large and well-formed flowers, with white sepals and petals, the lip large, white, with large dark crimson blotches and lines.

DIPLOMAS OF MERIT.

Cymbidium Landrail, a very fine variety of this hybrid.

Cymbidium Bullfinch var. Brilliant. A well-formed flower, sepals and petals yellow lined with crimson, labellum white with a crimson band.

Cymbidium Goosander var. exquisitum. Two fine spikes bearing large flowers, the sepals and petals white, the lip well displayed, white, flushed with a zone of dark rose colour.

Cymbidium President Wilson var. magnificum. A fine spike of somewhat wingy flowers of unique colouring, yellow, golden-brown and crimson being the prevailing tints.

Cymbidium Redstart var. elegans. A beautiful spike of perfect habit, the flowers giving an impression of cream-coloured satin.

Cymbidium Cygnet, Holford's var. This shows a distinct break away in colour, sepals and petals being an art shade of terra cotta and contrasting well with the sulphur-powdered lip.

GROUPS.

Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander), exhibited an impressive group of 18 Cymbidiums selected to represent the highest type to which hybridisation had proceeded at Westonbirt. As a mark of appreciation of this pioneer work, the Gold Medal of the Royal Botanic and Horticultural Society of Manchester was awarded to Sir George Holford.

Dr. Craven Moore (gr. Mr. Gilden) staged a bright group of Odontiodas and Odontoglossums.

A. T. Cussons, Esq. (gr. Mr. F. Cookson), staged a large mixed group, including choice varieties of Lycaste Skinneri.

Sir William Thom (gr. Mr. R. Williams) exhibited a group of fine Dendrobium hybrids.

B. J. Beckton, Esq. (gr. Mr. W. A. Stewart), exhibited an interesting selection of species and modern hybrids.

F. T. Paul, Esq., staged a good variety of Miltonia Bleuana.

F. J. Hanbury, Esq. (gr. Mr. Matthews), exhibited an interesting selection of cut flowers of the fine Dendrobium hybrids raised at Brockhurst, East Grinstead.

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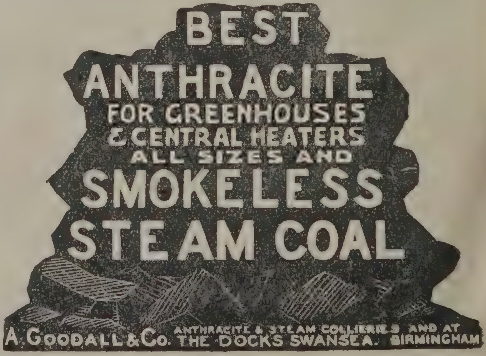
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THE ORCHID REVIEW.

VOL. XXXIII.] MAY, 1925. [No. 383.

NOTES.

LÆLIA ALBIDA.—This pretty species, seldom seen now in cultivation, was introduced to European gardens in 1832 by Count Karwinsky, who found it growing on the oaks which cover the Cumbre de Molinos, and at San Pedro Nolasko, Mexico, in the neighbourhood of Oaxaca, at an elevation of 7,000-8,000 feet. It was also collected by Hartweg, in the same region, in 1838. In subsequent years frequent importations were received, but no one seems to have been very successful as regards its cultivation, the plants soon show signs of starvation, and gradually dwindle in size.

ORCHIDS OF TROPICAL AMERICA.—*Schedulæ Orchidianæ*, No. 8, 1925, is devoted to New or Noteworthy species from the American Tropics, by Oakes Ames and Charles Schweinfurth. Vanilla latisegmenta is described as a new species, allied to V. inodora, but has narrower perianth segments. Restrepia filamentosa is another novelty and noteworthy for having the slender filament on the pedicel unusually prominent. Maxillaria maleolens was found on a floating and decayed log in Gatun Lake, and may have floated down the Chagres River. Most of the species described possess a greater botanical than horticultural interest. This number comprises 84 pages of letterpress, while the numerous illustrations are skilfully executed and add considerably to the value of the technical descriptions.

CYMBIDIUM AND CYPERORCHIS.—A recent number of Dr. Fedde's *Repertorium specierum novarum* (XX. 6-21), contains an article by Dr. R. Schlechter on "The Genera Cymbidium and Cyperorchis." The section Eucymbidium comprises species such as pendulum and simulans; section Eucyperorchis includes Cymbidium elegans and C. Mastersii, while in section Iridorchis is placed Cymbidium giganteum, C. grandiflorum, C. insigne, C. Lowianum, and C. Tracyanum. Cymbidium rosefieldense is included as a natural hybrid between insigne and Tracyanum, which is an error; it is an artificially raised plant between grandiflorum and Tracyanum. Cymbidium Gottonianum should be C. Gottianum. Only 19 artificial hybrids are mentioned, whereas over 170 have actually been recorded.

AMERICAN ORCHID SOCIETY.—Members of the American Orchid Society have been notified that at the request of ten members of the Society, and in accordance with Art. X. of the Byelaws, a Special Meeting of the American Orchid Society—in lieu of the regular Annual Meeting—will be held at the rooms of the American Museum of Natural History, 77th Street, New York City, on Tuesday, May 26th, 1925, at 2 o'clock p.m., for the purpose of hearing reports of committees and officers, for the election of officers for the ensuing year, and for the transaction of such other business as may properly come before the meeting.

FRENCH MARSH ORCHIDS.—The *Journal of Botany*, April, 1925, contains an article on "Some French Marsh Orchids," by the Rev. T. Stephenson, D.D., and T. A. Stephenson, D.Sc., accompanied by illustrations of Orchis sesquipedalis, Willd. References given show that O. sesquipedalis has been generally connected very closely with O. incarnata, and is a member of a very complex group of Southern Marsh Orchids. The type-form is found plentifully in the Charante valley, and, in the light of a recent examination of the very many plants in situ, the notes now given by these two well-known authorities will certainly prove of value.

THUNIA BRYMERIANA.—This is a distinct and handsome species of Thunia, introduced by Mr. W. E. Brymer, of Islington House, Dorchester. Its near ally is T. Marshalliana, to which it bears a considerable resemblance in the structure of its flowers and shape of the spur. T. Brymeriana has slightly smaller flowers, and the sides and front part of the lip are beautifully variegated with radiating crimson-purple veins. The disc of the lip is yellow, and the sepals, petals, and bracts white. Its flowers are larger than those of T. alba, while the colour and shape of the spur are so markedly different as to preclude the possibility of their being confused. In its general habit and the character of the vegetative organs it shows no marked deviation from other species of the genus, which in this respect are much alike. In the "Genera Plantarum" of Bentham and Hooker, Thunia is considered to be synonymous with Phaius, though the two have certainly little in common, which does not apply to various other terrestrial genera. Reichenbach removed Thunia far away, considering it as belonging to the group Arethuseæ. Whether this view is correct or not, it is certain that it is a genus quite distinct from Phaius, and the two are so well known in gardens that it is unnecessary to detail the various differences between them, which will be sufficiently obvious to every cultivator. How the two came to be confused is best accounted for by the fact that it dates from a time when the genera were not defined as at present.—*R. A. Rolfe, in Reichenbachia.*

LISSOCHILUS GIGANTEUS.

THIS remarkable species, the subject of a coloured plate in *Reichenbachia* (Series II. t. 80), was originally discovered by the celebrated African traveller, Dr. Welwitsch, in or before the year 1862, in the Angola district of Golungo Alto, where it is said to be spread over nearly the whole district in marshy spots at 1,000 feet to 2,400 feet altitude. It was also met with at the north of the river Zaire, near Porto da Lenha, growing in the mud, which at high tide was covered with fresh water. Johnstone also met with it on the Congo, and states:—"In the marshy spots, down near the river shore, are masses of that splendid Orchid, Lissochilus giganteus, a terrestrial species that shoots up often to the height of 6 feet from the ground, bearing such a head of red-mauve, golden-scented blossoms as scarcely any flower in the world can equal for beauty and delicacy of form. The Orchids, with their light green, spear-like leaves, and their tall, swaying flower-stalks, grow in groups of forty and fifty together, often reflected in the shallow pools of stagnant water round their bases, and filling up the foreground of the high purple-green forest with a blaze of tender, peach-like colour."

Lissochilus giganteus was introduced to cultivation by M. A. Linden, who brought plants from the Congo district, in 1887. Two of these were brought over from Ghent in September of that year, and about seven months afterwards one of them flowered and was exhibited at the Temple Show in May, 1888. This species was formerly grown to perfection in the Duc de Massa's garden, Château de Franconville, France. The leaves attained a length of nearly ten feet, but were surpassed by the stupendous flower stalks, which reached to a height of twelve feet, and on one of which no less than forty flowers were produced.

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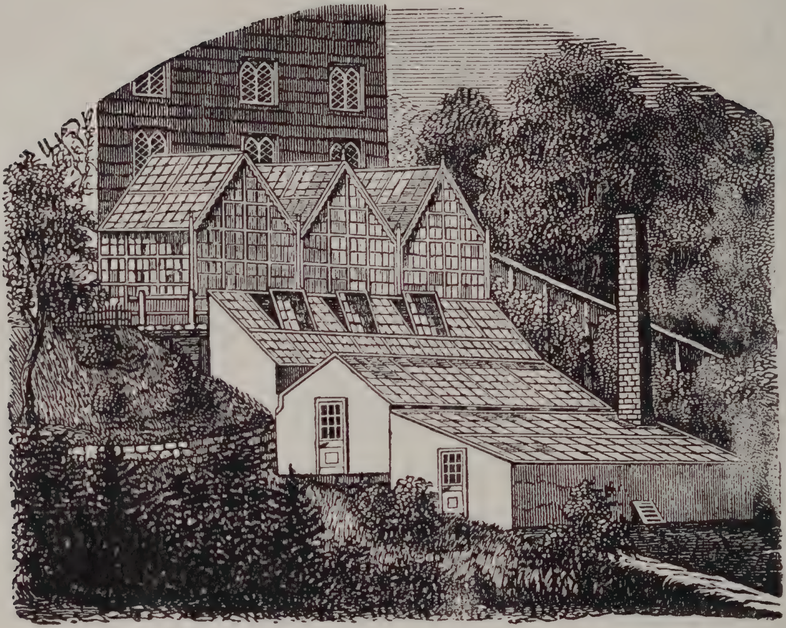
CATTLEYA DOUAI.—This is one of the finest of Cattleyas when seen in the albino state. It results from the crossing of C. intertexta (Mossiæ × Warneri) with C. Suzanne Hye (Gaskelliana × Mossiæ), and when pure white varieties of the species concerned in the parentage are used the seedlings yield flowers with an entire absence of any purple colour. The constitution is also very satisfactory, which is of great assistance to the amateur, for C. Mossiæ is never one of the strong growers. Some thirty examples of C. Douai alba have recently been in flower with Mr. John Evans, Colwyn Bay, North Wales, where they made a fine display. One of them received a First-class Certificate at the meeting of the Manchester Orchid Society on March 20th, when it bore eight flowers and buds, a Cultural Certificate being also awarded. Another variety, called Imperator, had six large flowers, while some of the plants produced five flower-sheaths.

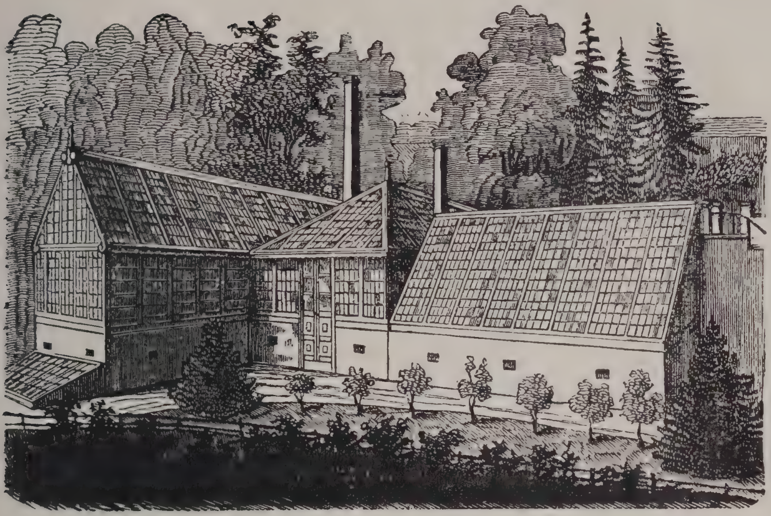


CONSUL G. W. SCHILLER'S ORCHID HOUSES AS THEY APPEARED IN THE YEAR 1857.

AN OLD-TIME COLLECTION.

THE collections of Orchids formed in the early days were often far more comprehensive as regards species than those of the present day. They were, in fact, really representative of the family, for the owners endeavoured to include as many genera as possible. Garden-raised hybrids did not exist, and there was but little inducement to set apart houses for the accommodation only of special favourites, such as we now have for Odontoglossums and Cypripediums. In the early days of Orchid cultivation one house had to accommodate many diverse kinds of plants, and although the success then obtained was probably in many cases inferior to that now witnessed, the cultivator in charge needed to be a man of resourceful ideas and one who took more than ordinary interest in his work. However, the results no doubt gave as much satisfaction and pleasure to the early-day amateurs as we now obtain from the beautiful plants grown under vastly superior conditions.

The accompanying illustrations are reproduced from a Catalogue of the Orchid collection of G. W. Schiller, Hamburgh, and dated February, 1857. Included in its 80 pages are the names of no less than 156 genera and 1,268 species. In a prefatory note Consul Schiller states that the names were determined by his friend Reichenbach. Some years later Reichenbach gave a copy of this little book to Mr. Jas. O'Brien, by whom it was



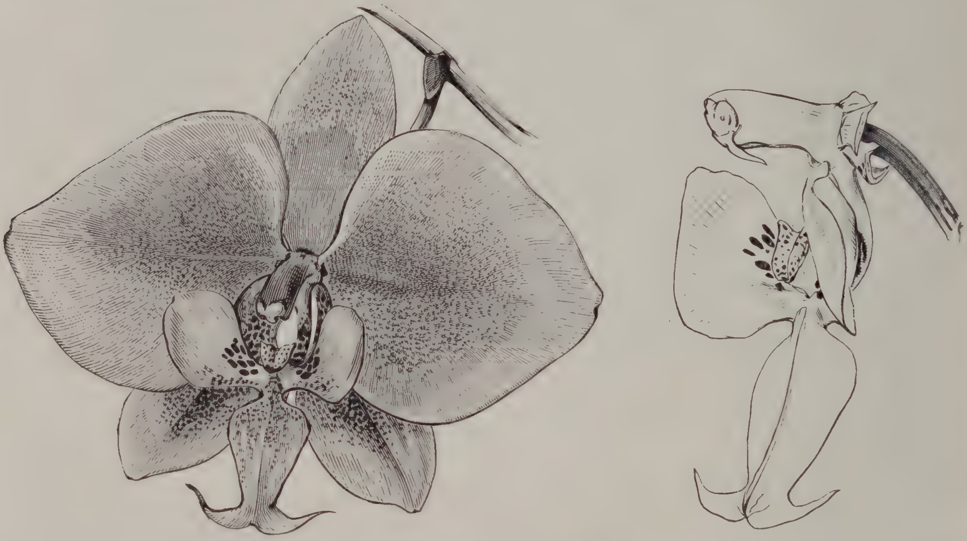
ANOTHER VIEW OF CONSUL SCHILLER'S ORCHID HOUSES.

carefully preserved until 1915, when it was presented to the present Editor of the *Orchid Review* for inclusion in his museum of antiquities.

Of the Orchids bearing Schiller's name, we may mention Lycaste Schilleriana, which first flowered in his collection in 1854, and remained the only known example until 1880, when other plants were imported. Læliocattleya Schilleriana first appeared in this collection in 1855, when it was called a Lælia, but is now known as a natural hybrid between L. purpurata and C. intermedia. Cœlogyne Schilleriana was introduced by Messrs. Veitch, from Moulmein, in 1857, through their collector Thomas Lobb, and dedicated to Schiller, at that time the most prominent amateur grower of Orchids in Germany. Cattleya Schilleriana first appeared in this collection in the autumn of 1857. Phalænopsis Schilleriana was introduced from the Philippines in 1858 by Schiller, in whose collection it first flowered in Europe in the spring of 1860, and has ever since been a popular species. Odontoglossum Schillerianum, a rare Venezuelan species, with the habit of O. odoratum, also bears this amateur's name.

The Odontoglossum section of the Catalogue includes both apterum and nebulosum, while Rossii is given as a synonym of apertum, from which it may be inferred that Reichenbach considered nebulosum and apterum to be two distinct species. Mexican Odontoglossums are well represented, and include cordatum, citrosmum, grande, maculatum and Insleayi. O. crispum is not mentioned, and O. Harryanum had not then been discovered. Cattleyas were represented by many of the species occasionally seen in present-day collections, although aurea and Warscewiczii are not mentioned, neither are Mendelii, Percivaliana, Schrœderæ and Trianæ, for the simple reason that neither of them had then been discovered.

Amongst the Lælias mentioned are albida, anceps, cinnabarina, pumila, purpurata and Perrinii. Space does not permit of giving a complete list of the various Angræcums, Catasetums, Dendrobiums, Lycastes, Maxillarias, Oncidiums, Saccolabiums, Stanhopeas and Vandas that were cultivated in this truly extensive collection ; we have, however, given sufficient to prove that Consul Schiller was well worthy of having his name attached to several species of importance.



PHALÆNOPSIS SCHILLERIANA.

The collection of Orchids formed by Mr. Oscar Lamarche, of Liège, was disposed of by auction in London, by Messrs. Protheroe & Morris, on October 7th, 1884, and a copy of the catalogue in the Editor's possession shows that lot 250 was "Vanda Lowi, an unrivalled example, from the collection of Mr. Schiller, of Hamburgh, 4ft. 6in. high, with 32 leaves, 2 young growths and flower stems." It realised 65 guineas.

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Missouri Botanical Garden, St. Louis, U.S.A.—In our report of the Orchid Exhibition of the Missouri Botanical Garden (page 75), reference is made to the injurious effect upon the plants of the foggy atmosphere. We now learn that some 1200 acres of ground have been purchased forty miles from St. Louis for the purpose of establishing an arboretum and the erecting of suitable Orchid houses. It is expected that the greenhouses will be ready in time for moving the Orchid collection during the early autumn. Mr. G. H. Pring, Horticulturist in charge of the Garden, left the United States on April 1st for a two months' visit to England.

CŒLOGYNE CRISTATA.

VARIETIES of Cœlogyne cristata have done rather well with me this year. The plants have all been potted within the last three years and made very strong bulbs with three and four inches of rhizome between them. So, although planted in the centre of large pans, two years growth takes them over the side. The plants have been continuously in the cool house beside Odontoglossums and Cypripediums, with a temperature occasionally below 50 degrees.

The variety marked "Raith" originated many years ago in the garden of Lord Novar. It is remarkable, I think, for the breadth of the petals and labellum. The variety marked "Grieve" appeared first in the collection of a grower of that name in this town.. Its chief characteristic is the five lines of coloured hairs on the labellum, and the dark orange blotch at the base. Other varieties have generally only three lines of hairs and not so strongly coloured. The varieties alba and Lemoniana are described on the labels in the handwriting of their previous owner, from whose widow I bought the collection six years ago, as "the very finest varieties." At the moment I have considerably over one hundred blooms out, and they make a striking show in a small house 14 by 10 feet. I am an amateur without any assistance, though I have been growing Orchids for 35 years.

"Fairview," Kirkcaldy. William Young.

[Mr. Young kindly sends a box full of flowers representing the above varieties, all of which exhibit proof of excellent cultivaton, the long racemes each bearing several flowers of large size and fine quality. The variety Lemoniana first appeared many years ago in the collection of Sir Charles Lemon, at Carclew, the lemon-yellow colour on the labellum causing the name to sometimes be erroneously written lemoniana. At the sale of Mr. Day's collection in 1881, a plant of this variety realised 33 guineas. The variety hololeuca, more widely known under the name alba, is believed to have first appeared in Mr. T. A. Titley's collection, at Gledhow near Leeds. It is figured in Williams' *Orchid Album* (vol. II, t. 54), the flowers being entirely pure-white. In the year 1881, a plant realised £131 by auction.]

* * *

Cattleya Lawrenceana.—This elegant species was first discovered by Sir Robert Schomburgk during his exploration of British Guiana, 1840-44, in the sandstone region of the Roraima, who, however, mistook it for C. Mossiæ. It was re-discovered in the early part of 1884 by Seidl, while collecting for Messrs. Sanders. It bears the name of Sir Trevor Lawrence, for many years President of the Royal Horticultural Society. The flowers are nearly five inches across, varying in colour from pale rosy purple to almost white, the labellum generally darker.

DENDROBIUM INTERRUPTUM.

A CURIOUS and pretty Dendrobium under the above name has just flowered with Messrs. Sanders, St. Albans. The species is a native of the Dutch East Indies, but in habit is strongly reminiscent of some of the Australian species.

From a woody rhizome spring a number of slender, wiry, ascending stems, which eventually reach a height of two feet, perhaps more. At long irregular intervals on these stems are borne singly green bulb-like leaves, each two to five inches long, about three-quarters of an inch in circumference, slightly tapered at both ends, and with a smooth, hard surface. The flowers are carried on peduncles, which resemble the stems in appearance, produced from near the base of the leaves, and are three-flowered, or more.

Though not showy, the flowers are attractive by reason of their quaint outline and dainty colouring. The segments are acuminate, triangular in outline, about three-quarters of an inch in length, the sepals being broader than the petals, and like them soft yellow in colour, but streaked basally on both surfaces with purple-brown. The three-lobed labellum is in reality longer than the other segments, but has the front lobe strongly reflexed, is greenish centrally, then pure white, the frilled edges being margined with bright purple. The pointed side lobes are white.

Apparently, as in many of the small-flowered Dendrobiums, the flowers are usually placed with the " chin " uppermost, but this character would vary according to the position assumed by the growths, some of which would be erect, others arched or drooped by the weight of the leaves.

Near the above species is placed a recently imported plant of Dendrobium cucumerinum, the Gherkin Orchid, which takes its name from the strong resemblance the leaves bear to the gherkin cucumber. Each leaf is about an inch long, and might easily be mistaken for miniature fruits of the well-known pickling edible. The species is a native of Queensland, and is probably exposed to sun and dry heat, as the tubercled leaves would enable them to resist great drought. These leaves are carried on a comparatively thick, woody, creeping rhizome, in such a position that both it and the fleshy roots are to a great extent protected by them, a similar characteristic being a feature in Dendrobium linguæforme.

The short flower spikes usually bear four comparatively large flowers, not unlike those of D. interruptum in colour, as the sepals and petals are yellowish-white, streaked with reddish-purple. The lateral sepals are twisted. The labellum has the front lobe strongly recurved, with crisped margin, white, spotted with red-purple. Centrally, the colour is brown and the disc bears several raised plates.

E.C.

CATTLEYA PERCIVALIANA.

THE introduction of Cattleya Percivaliana in 1882 awakened a good deal of interest, for almost all Orchid growers had been anxious to obtain a Cattleya that would flower during the dullest of winter months, and thus fill in the gap between the flowering seasons of C. labiata and C. Percivaliana. When Reichenbach described this species from dried flowers he remarked: "This Cattleya may prove a source of great enjoyment."

C. Percivaliana was introduced by Messrs. Sanders, through their collector Arnold, from the Cordillera of Venezuela, at an altitude sometimes exceeding 4,000 feet, and named in honour of Mr. R. P. Percival, of Birkdale, Southport, one of the best-known amateurs of that period. Coloured plates of this species were published in *Reichenbachia* (t. 2), from a plant in Lord Rothschild's collection at Tring Park, and in the *Orchid Album* (t. 144), from a specimen in Mr. Percival's garden.

The entire collection formed by Mr. Percival was in January, 1886, offered for sale by the Liverpool Horticultural Co. (John Cowan), Ltd., and a copy of the catalogue in the Editor's possession provides some interesting notes regarding C. Percivaliana. Lot 278 is described as the plant originally named by Reichenbach, and to which a First-class Certificate was awarded at South Kensington by the Royal Horticultural Society. It consisted of 16 bulbs with four flowers open, the price being 15 guineas. The following lot described the other portion of this plant, consisting of 42 bulbs, a similar sum being asked. C. Percivaliana alba appeared in 1884, and two plants, one of which had 10 bulbs, were quoted at 15 guineas each.

Remarkably fine specimens were not infrequently seen in those days of large importations, and C. Percivaliana was no exception. Lot 268 is described as "One magnificent specimen, on a raft, with 170 bulbs and 60 flowers open, in grand condition, the best variety of this fine Cattleya; 100 guineas." The following lot was also a part of this plant, and consisted of 130 bulbs and 35 flowers open. Nor did this represent the whole of the original specimen, for no less than five additional plants are mentioned as portions of it, having respectively 43, 21, 28, 18 and 9 bulbs. The plant which produced the flowers figured in the *Orchid Album* had 36 bulbs and 6 flower-sheaths, the price being 50 guineas.

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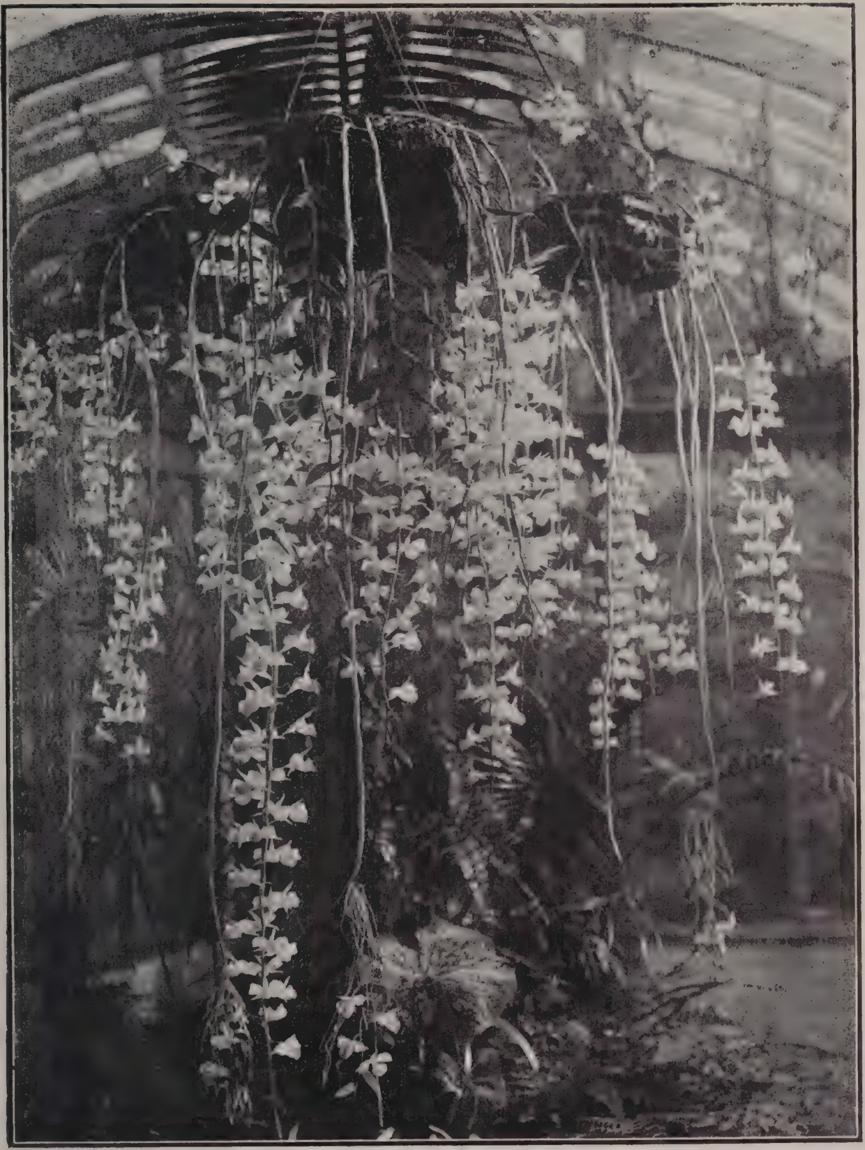
LYCASTE COSTATA.—Originally found in 1838 on the Peruvian Andes by Matthews, from whose herbarium specimens it was first named and described. It was introduced in 1854 by Mr. Robert Hanbury, of The Poles, near Ware. This species is well known for its large flowers of ivory white nature, and which are generally found to be pleasantly fragrant at night time.

CULTIVATION OF DENDROBIUM WARDIANUM AND D. PIERARDI.

It is a well-known fact that some species of the genus Dendrobium are difficult subjects to cultivate for any prolonged period. When first received in the imported state the plants are full of vigour, their thick and well-matured bulbs giving ample evidence of the favourable climatic conditions existing in their native locality. Such plants when given reasonable heat and atmospheric moisture, quickly recommence activity, either by the resumption of new growth or else by the production of numerous flower buds. Any amateur who has tried his hand at the cultivation of D. Wardianum will remember how fine was the first display of bloom produced on plants newly imported, yet how difficult it was to renew this success for more than two or three seasons. The plants gradually weakened, and each successive season brought a smaller amount of flowers.

While it is readily admitted that cultivators are working under disadvantageous conditions, such as artificial heat and deficiency of sunshine, there may be other factors that are improperly understood. The late Mr. Boxall, one of Messrs. Low's noted collectors, found that D. Wardianum often started its new growth soon after the completion of the last-made bulb, and before the resting season. In fact this new growth frequently reached a height of nine to twelve inches before the cool and dry season set in and temporarily arrested its development. Under artificial conditions it is usual to prevent, as far as possible, this formation of new growth until after the resting season. It is not here suggested that all English amateurs should follow closely this method, for the deficient light and warmth usually experienced in the late autumn months in England would bring about unsatisfactory conditions, but the point is worthy of consideration.

Modern Orchid houses are by no means so lofty as those generally in use during the time of our forefathers, and this means that fewer plants are now seen suspended from the roof. Many fine old species, such as representatives of the genus Stanhopea and Cymbidiums with pendulous spikes were generally so cultivated, and with excellent results. In this respect their pendulous racemes hung down naturally and allowed the individual flowers to be seen as they should be. But there is an important point to remember with regard to many Dendrobiums, and that is their long bulb-like stems hang down vertically. As soon as the new growth of D. Wardianum and D. Pierardi attains a length of about a foot it gradually bends over and becomes pendulous. How different is this habit to the present-day method of tying up the new growths to straight and upright sticks, but it is rendered necessary by the only way in which the



DENDROBIUM PIERARDI.

plants can be arranged with neatness in the majority of our modern glasshouses.

Our illustration gives an idea of D. Pierardi flowering in natural style The plants were cultivated by Mr. J. Gregory at Croydon, who used teak-wood baskets suspended from the roof, but near to the glass, and when so treated the pendulous stem-like bulbs attained a length of from eight to twelve feet and bore an abundance of large flowers possessing thick-textured quality.

ODONTOGLOSSUM HARVENGTENSE.

WHEN Odontoglossums were being imported into England and Belgium in large quantities considerable interest was attached to the first flowering of the plants under artificial conditions. All natural hybrids were duly appreciated on account of their rarity, while many of them met with favour because their flowers possessed pleasing characters. Among the yellow-flowering kinds that occasionally appeared were natural hybrids between O. triumphans and O. crispum, and the majority of these were recorded under the name O. loochristiense. It was, however, subsequently proved that a plant of similar parentage had been named at an earlier date as O. harvengtense, and this name is now utilised.

In the collection of Richard Ashworth, Esq., Newchurch, near Manchester, there has recently flowered an unusually fine variety of O harvengtense, the segments being broadly formed and the yellow colour clear and bright, although much diminished in intensity on the inner area of the petals, as is usually discernible in examples of this hybrid. All the segments are heavily blotched with cinnamon-brown, the blotch on the labellum still showing some of the varnish-like finish that is so characteristic of the same organ in O. triumphans.

Mr. Richard Ashworth refers to his plant as Odontoglossum triumphans harvengtense, and it is of interest to mention that in the sale catalogue of Mr. Tunstill's collection, April 2nd, 1903, lot 417 constituted a plant under precisely the same name. It was purchased by Mr. Elijah Ashworth for 10 guineas. This may be the identical plant recently flowered by Mr. Richd. Ashworth, if so, the name should be amended to O. harvengtense triumphans × crispum).

Another somewhat similar hybrid exists in O. excellens (triumphans × Pescatorei), but this can generally be distinguished by the broadly expanded apex of the labellum, as seen in O. Pescatorei.

Lælia rubescens.—A well-flowered example of this species was exhibited by Messrs. Charlesworth & Co. at the R.H.S. meeting on April 7th. It was originally described by Lindley, in 1840, as L. rubescens, and again in the following year as L. acuminata. Hartweg re-discovered it growing on a Calabash tree, a tree to which the Orchideæ seem to have a special aptitude for affixing themselves, owing doubtless to the facilities afforded by its long horizontal branches for resting places for minute seeds. Sir William Hooker stated that branches of the Calabash tree were not infrequently sent to England from the West India Islands for the sake of the epiphytes with which they were invested, and these being fixed in the earth readily vegetated.

PLANTS OF INTEREST.

ERIA GLOBIFERA.—Messrs. Stuart Low & Co. recently exhibited an example of this Annam plant, whence it was introduced by Mr. Micholitz, one of Messrs. Sanders' collectors. It was originally described by Mr. R. A. Rolfe from a plant which flowered about twenty years ago in the Royal Botanic Gardens, Glasnevin. It has globose pseudo-bulbs borne on a creeping rhizome, and which bear a single oblong leaf at their apex. The single-flowered scape is produced from the base of the bulb, the flower being light yellow, with some red stripes at the base. The sepals outside are covered with a dense white tomentum.

ONCIDIUM CHRYSODIPTERUM.—This very rare species has recently flowered in the collection of J. McCartney, Esq., of Bolton. It is figured in Veitch's *Orchid Manual*, but in Mr. McCartney's example the petals are very much wider, in fact, they resemble the same segments of Oncidium McBeanianum (superbiens × macranthum). Messrs. Veitch state that they acquired their plant at one of the London auction sales, and when it flowered in their houses in the spring of 1891 they were unable to refer it to any species known to them. The specific name, literally "golden wings," refers to the petals, which are exceptionally bright and attractive. Mr. McCartney states that his plant of O. chrysodipterum is of more robust growth than O. McBeanianum, and the bulbs and foliage are darker. It possesses the habit of the well-known O. macranthum, the flower spike being nearly twelve feet long.

DENDROBIUM ATROVIOLACEUM.—Messrs. A. J. Keeling & Sons staged a well-flowered plant of this handsome species at the meeting of the Royal Horticultural Society, held March 25th. It is a native of New Guinea, and was introduced by Messrs. Veitch, in whose establishment it flowered in 1890. It is allied to D. macrophyllum, but is readily distinguished by the absence of the yellowish-green pubescence on the pedicels and back of the sepals, as well as by its much brighter colours. Sir Joseph Hooker, when figuring it in the *Botanical Magazine* (t. 7371), remarked: "Of all the Dendrobes known to me I cannot recall amongst recent discoveries one so strikingly unlike its cogeners in coloration, and at the same time so beautiful in this respect, as D. atroviolaceum."

ARPOPHYLLUM GIGANTEUM.—Messrs. Cypher & Sons have recently had this fine old species in perfection. The flower spikes, which are produced from the top of the bulbs, grow from ten to twelve inches in height, the numerous small flowers of dark purple and rose. It was one of the species chosen by Warner for inclusion in the first volume of his *Select Orchidaceous Plants*, and is of distinct habit, thus making a suitable subject for exhibition purposes.

ANSWERS TO CORRESPONDENTS.

ODONTOGLOSSUM ADRIANÆ.—The flower received from "Inquirer" is that of Odontoglossum Adrianæ, a natural hybrid between crispum and Hunnewellianum. In the last years of Odontoglossum importing in quantity these hybrids were frequently seen, and many of them passed into collections as spotted varieties of O. crispum. The distinction can be chiefly noted in the formation of the labellum, although in O. Fascinator (Adrianæ × crispum), also a natural hybrid, the difference is less marked. As a rule, the flowers are smaller than those of O. crispum, and frequently have a yellowish ground colour.

POTTING COMPOST.—The reason why the compost mentioned by Mr. A. C. R. deteriorates so quickly is probably on account of the large proportion of leaves, which hold too much moisture. A small quantity of oak leaves mixed in the compost for seedlings is generally beneficial, the plants growing more rapidly than when only hard fibre is used. But when the seedlings are nearing the flowering stage it is questionable whether leaves are beneficial. Experience shows that a compost of too soft a nature often results in the production of weak spikes and soft-textured flowers.

ODONTOGLOSSUM ANDERSONIANUM.—There are very few plants now in cultivation, which is rather a pity, for a fully grown spike is very decorative. It is a natural hybrid between gloriosum and crispum, and in past years was frequently alluded to as one of the late Mr. Joseph Chamberlain's favourite Orchids. Another very similar hybrid has been recorded in O. Ruckerianum, in which the ground colour is rose, and almost certainly the result of the crossing of gloriosum with crispum roseum. We should much like to see the result of crossing gloriosum with one of the finest of the round crispums recently raised from seed in England. A very much finer type of O. Andersonianum should result. The amateur who asks for this information will find an illustration of O. Andersonianum in the *Orchid Review*, vol. xii, p. 9.

ODONTOGLOSSUM BUDS NOT OPENING.—When the plants are well cultivated no trouble in this matter should be experienced. It is not unlikely that "Young Beginner" has failed in keeping the flower-spikes clear of thrips, which do untold damage in a few days. An examination with a lens will quickly decide matters, and if this objectionable pest is present a suitable insecticide should be used. Sponging the spikes with the same is a good method, although spraying the whole house of plants is a precaution often practised by the leading cultivators. If the plants are too weak to produce satisfactory spikes the best and only treatment recommended is to remove the spikes, or allow no more than a single flower to prove the character of any doubtful one.

TREATMENT OF CYPRIPEDIUMS.—The fact that this genus is without pseudo-bulbs suggests that moisture should be supplied continually throughout the year, both in the compost and atmospherically. It is also necessary to protect the plants from bright sunshine, for the foliage is tender. The amateur who describes himself as a "Lover of Cypripediums" will find that the majority of these plants grow satisfactorily in or near large towns, and we fully agree with his remarks that they make the finest show in the dull late autumn months.

MIXED COLLECTION.—We do not advise the cultivating of many genera in the same house. It is one thing to place a few genera together so long as they all require somewhat similar atmospheric conditions, but quite another thing to mix up cool and warm kinds together, such as Odontoglossums and Cattleyas. Success will never be achieved in attempting to cultivate a too-varied assortment when insufficient accommodation exists. Select one or two of the popular genera that require cool-house treatment, and give them all possible care and attention. Unless "R. K." has a greenhouse in which a suitably high temperature can be maintained in winter, he will be well advised to leave Cattleyas and other warm growing kinds out of his collection.

CROCKING POTS.—Our Lancashire correspondent is quite right in his statement that cultivators of former days nearly half-filled the pots with crocks, but this was often done because the plants received far more water than they required, and it was only when this condition was balanced by extensive crocking that success was achieved. Modern cultivators are far more careful with the watering-pot, and two or three crocks are usually sufficient for the general run of popular Orchids. A greater amount of compost can then be placed in the pot, much to the benefit of the plant, so long as it is not over watered. It is, however, advisable to place the shallow-rooting plants, such as Miltonia vexillaria, in pans, but if pots are used for this section then rather more crocking is necessary, as a mass of sodden material is particularly objectionable to this genus. Masdevallias also require shallow pots, or pans.

RETARDING CATTLEYAS.—We do not consider it possible to retard the flowering of Cattleyas to the extent of several months, and the placing of C. Mossiæ in a cool house with the intention of keeping back its flowering period until the month of August will probably result in the wrecking of the plant's constitution. If "Exhibitor" desires to include some Cattleyas in his local flower show he will find C. Warscewiczii more suitable, for the flowers of this species, commonly known as C. gigas, are generally produced during the summer months. Even in the hands of experts it is always a difficult matter to alter the normal flowering time of any particular Cattleya.

CULTURAL NOTES.

THE WARM HOUSE.—Most of the plants in the warmest divisions will by this time have been set going, and should have every attention and encouragement in order to secure the best results. Damping down frequently will be necessary during warm weather, and on fine days the plants, such as Dendrobiums, Vandas, Cypripediums, &c., will greatly benefit by being lightly sprayed over in the early morning. Admit plenty of air by means of bottom ventilators, in order to keep the atmosphere in a sweet and healthy condition. On very hot days it will perhaps be necessary to open the top ventilators; this should be done with judgment, and then only for a short time during the middle of the day. This house should be closed early in the afternoon, so that the temperature may rise with advantage, and the shading should be removed as soon as this can be done without harm resulting to the plants. Maintain sufficient warmth in the pipes to keep the necessary temperature during the night.—*J. Mackay, May*, 1902.

For the WARM HOUSE a little fire heat will still be required during the night, and perhaps also by day, and, if the weather should be cold and unseasonable, a little may also be used with advantage in the Intermediate Houses. Keep a sharp look-out for thrips and other insect pests, preventing their increase by timely fumigation. Heat and moisture are quite indispensable for Dendrobiums and other East Indian Orchids. The former should now be in active growth, and all necessary work in the way of repotting or top-dressing finished. Many species of Orchids luxuriate under exactly the same conditions as Dendrobiums, and if the house is large enough may be placed with them. I mean such species as delight in heat if coupled with light and air, the last-named conditions being as essential as the first. Amongst these are the deciduous Calanthes, Coryanthes, Stanhopeas, Cyrtopodiums, Chysis, and Spathoglottis, also Catasetums, Mormodes, and Cycnoches, which should be placed in a light, airy position. Vanda teres should be grown in full sunlight if possible, and kept well syringed, also Vanda Hookeriana. On the stages, or in some other shady place, should such exist, will grow the usual class of East Indian Orchids, such as Phalænopsis, Saccolabiums, Aerides, Cypripediums, also Angræcums, Pescatoreas, Bolleas, and others. Some of the Oncidiums also grow well in heat, as O. carthaginense, O. Cavendishianum, O. Lanceanum, O. Papilio, O. Kramerianum, and O. splendidum.—*J. Mackay, May*, 1905.

HEAT AND MOISTURE are quite indispensable for Dendrobiums and other East Indian Orchids. The former should now be in active growth, and all necessary work in the way of repotting or top-dressing finished. Ours, except where the plants are too large, are suspended near to the roof glass, where they receive the greatest amount of light and a free circulation of air. As a general rule I find it safest not to syringe these Orchids, for where many different and choice species are growing together it is quite easy to have misfortunes, by the rotting of young growths, or the sudden termination of the new pseudo-bulb, caused by the water lodging in them. The atmosphere, however, cannot be kept too moist if the shading and ventilators are properly manipulated. It is a genuine pleasure to the cultivator to see his plants nicely arranged in their growing quarters, and looking healthy and comfortable in a warm, moist, and well-balanced temperature.—*H. A. Burberry, May*, 1894.

FLOWERING plants of all kinds should, if possible, be removed from the growing houses, as with the extra moisture required for the growing plants the flowers soon spot, and are then useless for exhibition or cutting. It is surprising what a display of flowers can be kept, even from a small collection, if a little care is taken of them. Most of them take a year to grow, often for only one flower or inflorescence, especially the rare varieties, and a small house or corridor used for a flowering house, well repays the extra labour of shifting the plants just while they are flowering, and most Orchids are no worse for being left in flower a month and with Cypripediums two months; in fact it seems to keep them more in their season, provided, of course, they are fairly strong and healthy plants. A great heat is not required if the house (not the plant) is kept dry. Our flowering house keeps from 50° to 55° in winter, and in summer we dispense with fire heat except in damp weather. The plants do not suffer from the lower temperatures during their flowering season, and the flowers keep perfect till they wither with age. It is worth a trial, and I am sure would make Orchids more popular.—*W. H. Morgan, May*, 1908.

CYRTOPODIUMS are now starting to grow. These species are rather shy bloomers, and rarely do so until very fine large bulbs have been grown, which in their turn have been thoroughly well rested throughout the winter. The flower spikes should now soon be showing. They appear from the new growth when it is about two inches high. The plant should therefore be stinted with water in order to force the spike. Should the growth push rapidly and commence to produce its leaves, the spike need not be expected, and the plant may be watered and grown on in a warm, sunny temperature. Proceed with the required re-potting in all directions wherever possible remembering that the roots are now getting very active, and the sooner the potting is done the more quickly will the plants again become re-established and settle down to grow. Never forget to well shade recently-potted plants and to keep plenty of moisture about them.—*H. A. Burberry, May*, 1898.

Cymbidium eburneum still holds its own among first-class Orchids, and is deserving of the best position in the coolest and shadiest part of the Intermediate House, where it may remain all the year round. Plants that require more root-room should receive attention as they pass out of flower. The thick fleshy roots of this Orchid require a larger space to ramble in than is generally given; therefore it is necessary to use extra-sized, well drained pots. Use a compost consisting of one half good turfy loam and the other half fibrous peat and moss, to which may be added a little leaf mould and broken crocks, in sufficient quantities to keep the compost open and allow a free passage for water. Instead of elevating the soil above the rim pot, keep it at least half an inch below it. During the growing season give water freely, and at other times sufficient to keep the roots moist. Cymbidiums do not appreciate dryness, either at the root or in the atmosphere, as it will cause loss of foliage, greatly to the disfigurement of the plants. The above remarks also apply to C. elegans, C. Mastersii, C. affine, C. aloifolium, C. ensifolium, C. chloranthum, and C. longifolium. C. Lowianum does not require such a large amount of pot room as C. eburneum, and when properly potted and looked after may remain undisturbed for many years, and will produce its long arching spikes more freely when kept in a pot-bound condition. C. Devonianum produces its pendulous racemes from the base of the young growths, and should be grown in a basket suspended. All these Cymbidiums may be grown well along with C. eburneum.—*J. Mackay, May,* 1903.

Odontoglossum citrosmum is one of the most pleasing and delightfully scented Orchids now in flower. They are grown in shallow pans, so that they may be suspended, the flowers are thus shown to more advantage. As soon as the spikes are off, top-dressing or re-potting should begin, using peat and moss in equal proportions. They should not be kept long in a saturated condition, but allow them to get moderately dry before giving a fresh supply of water. Give them a fair amount of sunshine and air. Whilst in flower it is best to keep the atmosphere much drier, so that the flowers will last longer in good condition without spotting.—*J. Mackay, May,* 1904.

Top-dressing.—I strongly advise where re-potting is not necessary that each plant should be top-dressed with clean, living sphagnum moss. The top layer of old compost should be carefully removed from between the roots, by the aid of a pointed stick, and replaced with a layer of new, sweet material placed on rather lightly. This not only smartens the appearance of the plants very much, but it also loosens the moss so that the air and water can have freer access to the under roots. The new compost laid round the plants seems also to greatly assist growths, the new roots certainly enter it very approvingly. It is scarcely necessary to use peat for top-dressing purposes unless the plants are of large size, when some may be used with the moss. This work of top-dressing and repotting will keep us busy for some time to come, it being the best possible time for so doing. Always remember to well shade a newly-potted plant, and to moisten its surroundings, surface compost, and foliage, with the syringe occasionally, so that an undue loss of foliage or of shrivelling may be avoided. It will then soon become re-established and take the uniform treatment.—*H. A. Burberry, May*, 1900.

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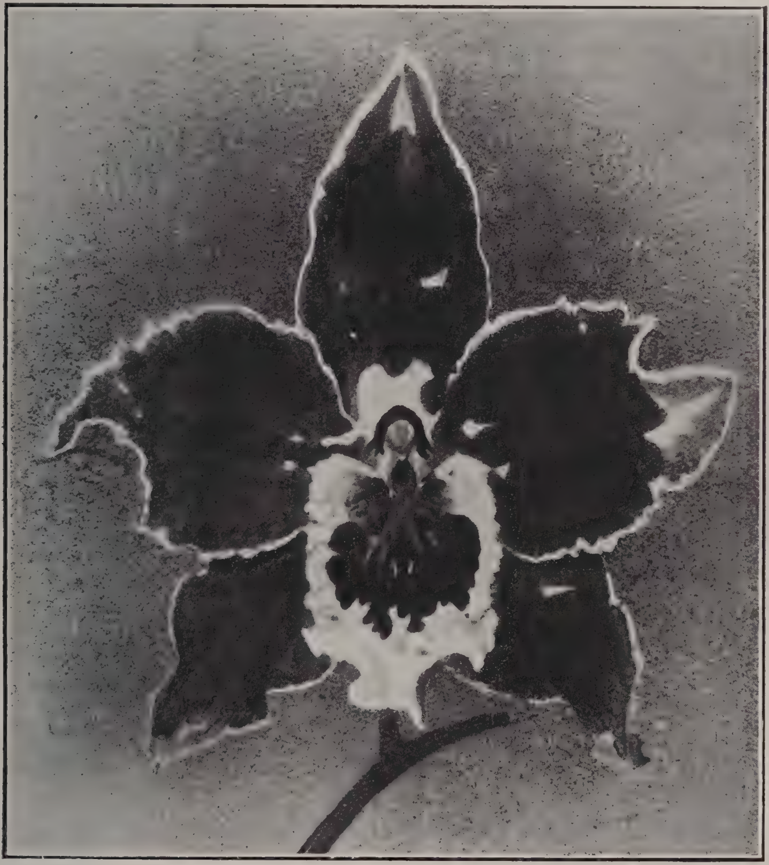

ODONTOGLOSSUM HELIUS.

Odontoglossum Helius.—The accompanying illustration of Odontoglossum Helius gives an idea of how the spotting seen in the early-day Odontoglossums has been increased by careful breeding until it covers almost the whole of the segments. The narrow white margin adds to the other attractive qualities. The parentage of O. Helius is not known, but the plant was formerly in the Walton Grange collection.

ORCHID DISPLAY AT BOSTON, MASS., U.S.A.

IT is gratifying to learn that no less than 24,500 people visited the Spring Show of the Massachusetts Horticultural Society, held at Boston, March 26-29th. The outstanding feature was the magnificent display of Cymbidiums from the collection of Albert C. Burrage, Esq., the President of the Society. The plants were all arranged upon the floor of the Society's Hall, and comprised a greater assemblage than has ever before been seen in the United States. In order that these plants might be better understood and appreciated by the numerous visitors, Mr. Burrage provided a leaflet for free distribution, giving the following information :—

" Cymbidium, from a Greek word meaning 'boat-shaped,' due to the peculiar shape of the lip, is undoubtedly the most decorative Orchid plant ordinarily cultivated. With the exception of a few discovered in Africa and Australia, it is found only in the East Indies, China, Japan, and the adjacent Islands.

" Although sometimes found growing in earth and decayed organic matter on rocks and the forks of trees, it is, unlike most Orchids, a terrestrial plant ; that is, it grows like our native Lady's Slipper in the earth under trees.

" There are only about thirty known species of Cymbidium, but from these have been derived several hundred varieties of hybrids, and at the present time much attention is being given in Europe to the cultivation of these plants and the creation of new hybrids.

" The value of these evergreen, bulbous Orchids, with their clustering growths of flag-like foliage and sturdy flower spikes, is due not only to their stately and decorative character, but to the remarkable keeping quality of their flowers. Cymbidium plants often last in flower over three months, and the cut flower spikes, when properly kept in cool water in cool rooms, will last in good condition several weeks—much longer than any other Orchid. They are sometimes successfully transported in boxes from Europe to America, and from Boston to California.

" Compared with most Orchids, they are easy to grow. They require considerable shading, much fresh air, and a moist atmosphere, but not excessive heat. Their flowering season is late winter and early spring. It requires about one year from the fertilization of the flower to form and ripen the seed pod, and from the sowing of the seed until the plant reaches the flowering age it usually takes about six years.

" An attempt is made here to show these Orchids as they grow in the ground in the tropics, young and old, unflowered, with seed-pods and with flowers, and to indicate not only the character of these beautiful exotic flowers, but also the value of these picturesque plants as house plants, even when not in flower. "This exhibit, covering 300 square feet, contains over 125 flowering plants (4 species, 38 crosses, and 15 varieties of species and crosses) with over 200 flower spikes and over 1,800 flowers, the greatest number of flowers on one spike being 30, and the largest number of flowers on one plant being 47."

A CYMBIDIUM EXPERIMENT.

THE April issue of *Horticulture*, the official journal of the Massachusetts Horticultural Society, contains the following very interesting account of an experiment in the cultivation of Cymbidiums. It is written by Mr. Albert C. Burrage, the worthy President of the American Orchid Society, the article being accompanied by a reproduced photograph showing the interior of his Cymbidium house at Orchidvale, Beverly Farms, Mass., U.S.A.

"A growing appreciation of the picturesque beauty of Cymbidium plants in flower, and an increasing confidence in the suitability of our sunny New England climate for their cultivation in shaded glass houses, has made me believe that it is worth while to try, at Orchidvale, what some Orchid experts call a novel experiment, as it involves radical changes of the ordinary methods.

"Usually in the United States, as in Europe, Cymbidiums are grown in pots on benches about three feet from the floor, and the hot-water pipes heating the house are located either near the floor under the benches, or under the walks between the benches. In either case the bottom of the pots and the roots are nearer the heat supply than the tops of the plants, and therefore are substantially as warm as the leaves and flower spikes.

"I had some doubt as to whether or not this was the best method of cultivating such ground Orchids. Cymbidiums are not epiphytal, that is, they do not grow on trees. They are terrestrial, meaning that they live in the earth, out of which they get most of their food. Sometimes they are found growing in dirt and decayed organic matter on rocks and crotches of trees, but they require earth in which to grow.

"Cymbidiums grow largely in the Far East and mostly in India. They grow in the shade of trees in countries like Burma, where the air is hot, but where, in the shade, the earth is necessarily cooler than the air. It is evident that in this situation the circulation of the air is not around the roots in the ground, but higher up around the leaves and flower spikes above the roots.

"Why, then, grow these plants with hot air circulating around the roots at the bottom, and cooler air at the top around the leaves? Our experiment reverses this method. We grow the plants cool and provide warmer air for the tops than for the roots.

"Briefly described, the house runs north and south, and has a length inside of 67 feet and is 17 feet 4 inches wide. The walls on the side and end are concrete, 2 feet 7½ inches high on the inside above the floor, and the side glass from the wall to the roof is 2 feet 3 inches. From the floor to the ridge is 9 feet. The walks are 2 feet wide, covered with cast-iron grating. The centre bed is 5 feet wide and the side bed 3 feet. The length of the centre bed is 61 feet.

"This house contains approximately 500 Cymbidium plants of varying sizes, divided into over 100 varieties.

"There is no bottom ventilation. Ample ventilation is given wholly by the movable ventilators on each side of the top of the roof. The house is shaded by small wood slat blinds on each side of the roof, rolled down from the top and pulled up by cords.

"The hot water for heating the room is carried by four rows of 4-inch wrought iron pipes underneath the glass roof on each side of the house, the return pipes being under the iron grating walks on each side.

"Last week a group of 125 of these plants, divided into 38 varieties containing over 200 spikes with over 2,000 flowers, was exhibited at the spring show of the Massachusetts Horticultural Society at Horticultural Hall, Boston.

"In the growing of these plants the room is kept fairly cool, with much circulation of air at the top. Cymbidium plants in cultivation in greenhouses require good drainage, and here this is provided by having the pots containing the Cymbidiums placed on beds of large porous coke eighteen inches deep.

"This coke is drenched with water as required, and the slow evaporation of this water supplies the air with the moisture necessary for these plants.

"These Cymbidium plants have been in this room only a few months, not being put there until after the flower spikes had started, and therefore it is as yet too soon to determine whether or not the experiment will be a success. Although these plants have a dark green colour and seem very happy, with sturdy stalks and many large flowers, nevertheless it is not likely that the results of the experiment can be fairly determined until a second flowering season comes, a year hence."

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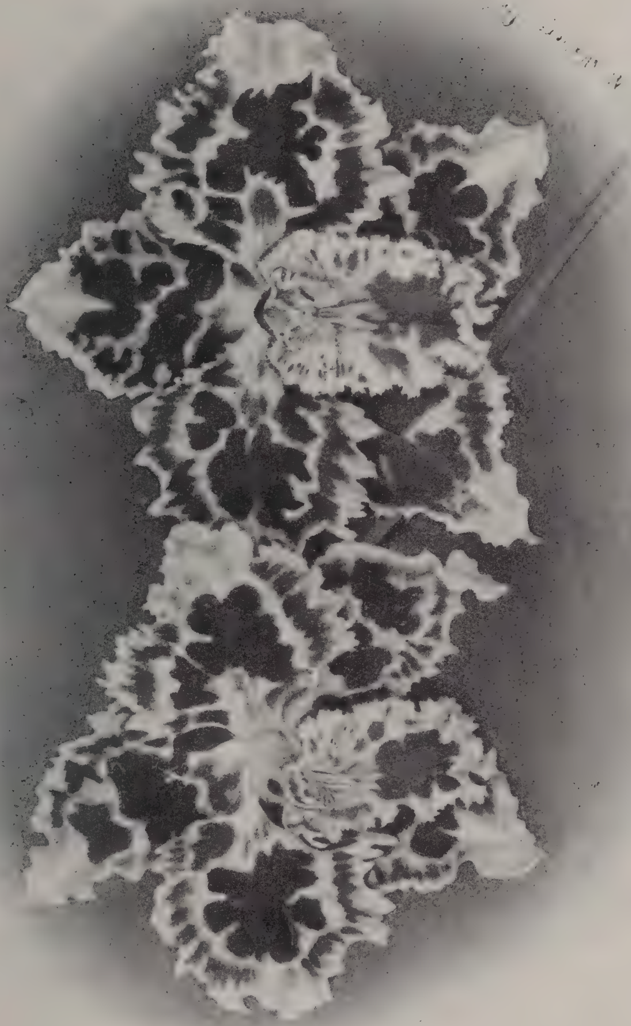
Cattleya Cultivation in Montreal.—Weather here has been severe. We have had from 14 to 16 degrees below zero, yet can maintain 65 degrees in the Cattleya house by means of a splendid boiler and fine coal, which we get from the States, about the size of cricket balls. What is wanted here is an Orchid Society.—*E. J. Seymour, Montreal, Canada.*



ODONTOGLOSSUM CRISPUM VAR. OLIVE.

BLOTCHED FORMS OF ODONTOGLOSSUM CRISPUM.

THE true form of Odontoglossum crispum is without spots or blotches on the sepals and petals, but with occasional spotting on the labellum. Now and again varieties having all the segments more or less tinged with rose appeared, and to these the descriptive term roseum has been appropriately applied. They make a pleasing contrast to the white forms, and are much prized when composed of broadly developed segments.

But O. crispum in its native habitat is often associated with other species, and natural hybrids are occasionally produced. One of these species is O. luteopurpureum, which, as its name suggests, is yellow with purple spotting, and this, crossed with O. crispum, yields the well-known O. Wilckeanum. No one failed to distinguish a Wilckeanum from the typical crispum, but when further matings between the two produced descendants showing the specific characters in diminished degrees, then doubts arose as to the precise name.

In the early days of crispum importing, a flower was occasionally seen with the segments spotted or blotched with purplish colour, and these were then classed as blotched crispums, although we now realise that the blotches of colour which added considerably to the value of the plant were derived from O. luteopurpureum. In other words, all blotched crispums are hybrids, a statement that no one doubts to-day, for evidence of luteopurpureum can be traced not only in the blotching, but in the oftentimes elongated segments, or the toothed edge of the petals, or the spiny crest on the labellum.

In the course of time, the continual importing of O. crispum from the celebrated Pacho and other districts depleted the land, and collectors sought other ground for obtaining their supplies. Consequently, with the importations of later date, a somewhat different form of crispum appeared in cultivation. Although the flowers were generally smaller, there was a much greater percentage of spotted varieties, due to the fact that in the newer collecting areas O. crispum was associated with O. Hunnewellianum, and resulted in the production of numerous hybrids that are known under the name O. Adrianæ. Here, again, the European cultivators easily detected the primary crossing, just as they did in the case of O. Wilckeanum. But when secondary and subsequent matings yielded flowers having the specific characters less strongly displayed, some uncertainty prevailed, and whenever the balance of evidence was in favour of placing the plant in the crispum section it was quickly done, for at that time anything in the way of a spotted crispum was easily disposed of at a high figure.

There is now little doubt that the plant originally named O. crispum var. Olive, and herewith illustrated, was produced naturally through the intercrossing of crispum and Hunnewellianum, not perhaps as a primary mating, but more likely as crispum × Adrianæ (crispum × Hunnewellianum). Such hybrids have been described under the name O. Fascinator, and evidence of the Hunnewellianum species can still be seen, more especially in the general formation of the labellum.

Although O. Lindleyanum is very distinct from O. crispum it does occasionally mate with it, and in the days of large importations a few plants of O. Coradinei (crispum × Lindleyanum) turned up. An illustration of this natural hybrid appeared in the *Orchid Review*, vol. xxiii, p. 20. In order to prove whether some of the blotched crispums had been derived from Lindleyanum, the late Mr. Crawshay hybridised Coradinei with crispum, thus imparting a larger percentage of the latter species. The resulting seedlings were named O. crispodinei, and the blotching much resembled that seen on some of the naturally produced hybrids. An illustration of this hybrid may be seen in the *Orchid Review*, vol. xiii, p. 241. The large blotch on the labellum is strongly indicative of O. Lindleyanum, and it has been suggested that the well-known O. crispum solum, figured in the *Orchid Review*, vol. xxiii, p. 180, owes the peculiar blotch of colour on the labellum to the influence of O. Lindleyanum.

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NEW HYBRIDS.

NAME.	PARENTAGE.	EXHIBITOR.
Cattleya Capitol	Trianæ × Syros	Sanders.
Cymbidium Zebra	Dryad × insigne	,,
Cypripedium Wrigleyanum	Curtisii × Gowerianum	Mrs. Bruce & Miss Wrigley
Dendrobium Griselda A. Fox	nobile × Florence E. King	F. J. Hanbury, Esq.
Dendrobium Kennobile	Kenneth × nobile	,,
Dendrobium Mary J. S. Hanbury	chessingtonense × Melpomene	,,
Dendrobium Matthewsianum	nobile × xanthocentrum	,,
Miltonia Lucia	vexillaria × Princess Margaret	Charlesworth.
Odontioda Bruin	Oda. Brewii × Odm. His Majesty	R. Gerrish, Esq.
Odontioda Viscountess Folkestone	Oda. Coronation × Odm. l'Empereur	,,
Odontoglossum Falstaff	Portia × eximillus	Flory & Black.
Odontonia Etna	M. Charlesworthii × O. Ithone	Charlesworth.
Odontonia Laguna	Otna. Dora × Odm. Crethus	,,
Odontonia Sappho	M. Charlesworthii × O. Aphrodite	,,
Sophrocattleya Saxiflora	Sc. Saxa × S. grandiflora	H. Dixon.
Sophrolæliocattleya Vulcan	Lc. Dominiana × Slc. Anzac	Flory & Black.
Vuylstekeara Melba	V. Brewii × O. Gorizia	Charlesworth.

ROYAL HORTICULTURAL SOCIETY.

March 24th, 1925.

MEMBERS of the Orchid Committee present: C. J. Lucas, Esq. (in the Chair), Messrs. Gurney Wilson (Secretary), Jas. O'Brien, E. R. Ashton, R. G. Thwaites, A. McBean, John Cowan, H. T. Pitt, C. H. Curtis, H. G. Alexander, F. K. Sander, J. E. Shill, J. Wilson Potter and F. J. Hanbury.

PRELIMINARY COMMENDATION.

Odontioda Viscountess Folkestone (Oda. Coronation × Odm. l'Empereur) shown by R. Gerrish, Esq., Milford Manor, Salisbury (gr. Mr. Sorrell), received a Preliminary Commendation on account of its promising character. The large flower of perfect formation, the petals broadly developed; in colour deep violet-rose, with chocolate coloured blotching on the central area of each segment, the elongated labellum having an attractive spiny crest of bright yellow. One of the finest of the several hybrids raised from Odontioda Coronation.

Groups.

Messrs. Sanders were awarded a Silver Banksian Medal for an attractive exhibit containing many superb Cymbidiums, and of which Ringdove, Erica, Gottianum and Ceres stood out prominently. C. Nelly var. extraria was of yellow colour, except for a crimson band on the lip. Cattleya Monarch, of fine formation and colour, and Læliocattleya Royal Sovereign, with four large flowers of rich cinnabar-red colour, both came in for appreciation. Dendrobium Wiganiæ bore many cream-coloured flowers, while Cypripediums were well represented by Pyramus and others of its kind. Ada aurantiaca and Cirrhopetalum picturatum were in the front portion, while at the back were various Oncidiums, of which O. sarcodes showed up the best.

Messrs. Stuart Low and Co., were awarded a Silver Banksian Medal for an interesting group of species and hybrids. Among the former were Cochlioda sanguinea, Dendrobium Brymerianum, D. atroviolaceum, D. infundibulum, the pretty Restrepia striata, the scarce Lælia Jongheana, as well as Schomburgkia tibicinis and S. undulata. Attractive hybrids were staged in Cypripedium Daisy Barclay, cream-coloured with heavy maroon markings, Oncidioda Stuart Low, with a trailing spike of bronze-red flowers, and Odontoglossum Faustina, with a spike of eleven roundly formed flowers of rose and purple colouring.

Messrs. A. J. Keeling & Sons staged an interesting exhibit comprising the rare Dendrobium Ashworthiæ, with a spike of nine flowers, a fine example of D. atroviolaceum, with five spikes, D. xanthocentrum and D. melanodiscus Aurora. Cypripedium Emerald, with a handsome flower of light greenish colour, and C. Daisy Barclay, with dark maroon coloured markings, both met with appreciation, as also did Odontoglossum Amabelicity, with flowers of bright rose-purple colouring.

Harry Worsley, Esq., Haslingden, Lancs. (gr. Mr. Mace), showed Odontoglossum crispo-Solon var. Ruth, with four finely developed flowers, white, with reddish blotching in the middle of each segment.

Baron Bruno Schröder, Englefield Green (gr. Mr. J. E. Shill), exhibited Odontioda The Dell Duchess, with a spike of 14 medium-sized flowers prettily marked with scarlet, and to which an Award of Merit had previously been given.

Messrs. Flory & Black staged Odontoglossum Falstaff (Portia × eximillus), a novelty with white flowers having reddish spotting; also Sophrolæliocattleya Vulcan (Lc. Dominiana × Slc. Anzac), of rose-magenta, the labellum purplish; and Brassocattleya Nena, with a large flower of rosy-mauve colour. A pleasing Odontioda named Rubicon was staged with a spike of 22 bright crimson flowers.

April 7th, 1925.

Members of the Orchid Committee present: Sir Jeremiah Colman, Bart. (in the Chair), Gurney Wilson (Secretary), Col. Sir John Rutherford, Bart., E. R. Ashton, J. Wilson Potter, H. G. Alexander, T. Armstrong, John Cowan, A. McBean, C. H. Curtis, J. E. Shill, F. K. Sander, A. Dye, S. W. Flory, H. T. Pitt, C. J. Lucas and R. Brooman White.

AWARDS OF MERIT.

Odontoglossum Clodagh (Lakinæ × Nathaniel), from R. Gerrish, Esq., Milford Manor, Salisbury (gr. Mr. W. Sorrell). An attractive hybrid bearing a spike of six flowers, the segments well covered with chocolate-red blotching, the broad labellum showing more of the white ground than the other segments.

Odontoglossum Cordoba (eximium × Doris), from R. Gerrish, Esq., Milford Manor, Salisbury. The spike carried eleven flowers, compactly arranged, the segments of almost solid reddish blotching, the labellum bordered with white.

Cymbidium Vesta var. Thelma (Alexanderi × insigne), from Messrs. J. & A. McBean, Cooksbridge. A charming hybrid, the arching spike with nine large flowers having the segments broadly developed, and of blush-pink colour, the labellum lined and dotted with crimson, the column deep rose.

GROUPS AND OTHER EXHIBITS.

R. Gerrish, Esq., Milford Manor, Salisbury, was awarded a Gold Medal for an excellent group of choice Orchids, the general state of cultivation gaining for the grower, Mr. W. Sorrell, a Silver Lindley Medal. In prominent positions were Odontoglossum crispum var. Sarum, with five large flowers, and O. crispum var. Repulse, with four immense flowers, the petals deeply fringed; both varieties were white forms, but failed to gain awards on account of the spikes having been disbudded. O. citrinum, of bright yellow colour, O. Alastor, of plum tint, and O. Cordoba, with a spike of eleven flowers of claret-purple colour were of special merit, while two fine forms of Læliocattleya Hassallii alba, with white sepals and petals and deep purple lip stood out prominently. Among the Brassavola hybrids was Bc. Cliftonii magnifica, with three finely developed flowers, also Blc. Jupiter, with an immense flower. Cattleya Douai bore five large pure-white flowers, and C. Cowaniæ alba had a couple of similar nature. Along the back rows were many superb Cymbidiums and Dendrobiums, while in front were a well-grown example of Odontoglossum triumphans var. Lionel Crawshay, Odontioda Grenadier, with a branched spike of bright red flowers, and Odontioda Viscountess Folkestone, which received recognition at the former meeting.

Messrs. J. & A. McBean were awarded a Gold Medal for an extensive and well arranged group containing in the centre a fine assortment of the best Cymbidium hybrids. On each side were many select Cattleyas, including Empress Frederick, of rich colour, Mary Sander, pure-white, Cowaniæ alba, with broad segments, and Mendelissima, of pretty formation. Læliocattleya Primrose, of delicate terra-cotta tint, Lc. warnhamensis, of reddish colour, and Lc. Eunice alba, were all attractive. The Odontoglossums included finely blotched forms of large size, while Odontiodas were represented by Cooksoniæ, Dovere, and several of the best known varieties. Lycaste Skinneri, Dendrobium atroviolaceum and the elegant Zygopetalum Perrenoudii came in for well-deserved appreciation.

Messrs. Charlesworth & Co. received a Silver-gilt Banksian Medal for an attractive exhibit of choice hybrids, including Odontonia lutea, of yellow colour, Odontonia Nesta, with three flowers, somewhat like those of M. vexillaria, but of deeper colour, and several varieties of Miltonia Wm. Pitt, one of rich crimson colour. The rare Lælia acuminata, with several flower spikes, and Wilsonara Wendy, with a many flowered spike, received notice. A feature of this exhibit was the special strain of Odontoglossum crispum, in which roundly formed flowers of thick substance were in evidence.

H. T. Pitt, Esq., Stamford Hill, London, N. (gr. Mr. Thurgood), was awarded a Silver Banksian Medal for a pleasing exhibit in which the handsome Angræcum sesquipedale and Maxillaria Sanderiana stood out prominently. Other notable plants were Cymbidium Low-grinum, the elegant C. Ceres, Dendrobium Griffithianum, with a cluster of golden coloured flowers, D. Ashworthiæ, Lycaste Skinneri hellemensis, Brassocattleya Cliftoni and Masdevallia triangularis. A rare Odontoglossum was seen in O. elegantius, a natural hybrid between Lindleyanum and Pescatorei.

Messrs. Sanders received a Silver Banksian Medal for an exhibit containing several attractive Cymbidiums, of which Garnet, Seamew, Redstart, and Erica carried many-flowered spikes. Cattleyas included Evelyn Sander, with pure-white flowers, Mary Sander, also white, and several hybrids. In the centre was Pholidota ventricosa, while in other places were Oncidium barbatum, Odontoglossum Queen Alexandra, and O. crispum var. Balmoral, with reddish blotching.

Messrs. Cowan & Co. exhibited Odontioda Murillo, with large flowers of reddish-scarlet colour; Oda. King George V., with a many-flowered spike; Odontoglossum crispum xanthotes and a pleasing variety of O. eximium.

Mr. Harry Dixon was awarded a Bronze Banksian Medal for a group containing Brassocattleya Digbyano-Mendelii, with four large flowers, Bc. Albion, with a total of six flowers, Brassia brachiata, and the scarce Renanthera Imschootiana. In the front were Lycaste Skinneri, of distinct coloration, and Sophrocattleya Saxiflora, a new hybrid between Sc. Saxa and S. grandiflora.

Messrs. Flory & Black staged Cattleya Dr. M. Lacroze, with a spike of three flowers, the labellum being ruby-crimson in colour. Also Læliocattleya Pavlova, of deep mauve, and Lc. H. T. Pitt, of round formation and rich colour.

April 21st, 1925.

Members of the Orchid Committee present: Sir Jeremiah Colman, Bart. (in the chair), Messrs. Gurney Wilson (Secretary), H. H. Smith, H. T. Pitt, S. W. Flory, R. Brooman White, R. G. Thwaites, F. K. Sander, H. G. Alexander, J. E. Shill, J. Cypher, W. H. Hatcher, A. McBean, T. Armstrong, C. J. Lucas and C. H. Curtis.

First-class Certificate.

Odontioda Orestes var. Butterfly (Oda. Coronation × Odm. percultum), from J. J. Bolton, Esq., Claygate, Surrey (gr. Mr. S. Lyne). A very showy hybrid bearing a spike of 17 medium-sized flowers, all the segments effectively blotched with bright reddish-scarlet, the petals having an additional zone of similar colour near the margin, labellum with a whitish apex and bright yellow crest.

Awards of Merit.

Læliocattleya Orange Blossom var. magnifica (Lc. Elinor × Lc. Trimyra), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury, Glos. (gr. Mr. H. G. Alexander). One of the most attractive of Læliocattleyas, the erect spike bore five flowers of bright apricot-yellow colour uniformly developed, except for the labellum, in the throat of which the colour is deepened to an orange tint, margin of petals slightly crisped, the labellum to a much greater degree.

Cattleya Schroderæ var. Hercules, from Messrs. Stuart Low & Co. This plant has been cultivated in European collections for many years, but has only recently been seen in fine condition. The spike bore three large flowers with broadly developed white segments, the labellum having an orange coloured zone on its middle area.

Groups and Other Exhibits.

Messrs. Charlesworth & Co., were awarded a Silver Banksian Medal for an attractive exhibit in which the centre was occupied by Sophrolæliocattleya Meuse with five flowers of deep mauve colour tinged with red. On the one side was Slc. Prince Hirohito, and on the other Brassocattleya

Appam, with four large flowers of rose tint. Odontoglossum Cordoba, of reddish colour, and O. Agapetum, heavily blotched, were in fine form, as also was Cypripedium Emerald, with its light greenish flowers. The curious Bulbophyllum Dayanum, Cattleya citrina, and a selection of Odontonias filled in the front rows.

Messrs. Stuart Low & Co., received a Bronze Banksian Medal for a pleasing assortment of the popular species, the centre piece being Læliocattleya G. S. Ball with many flowers of orange-yellow tints. Dendrobiums were represented by finely flowered examples of Brymerianum, Wardianum, densiflorum and thyrsiflorum, while among the Odontiodas were richly-coloured varieties of Colinge and Charlesworthii. Cirrhopetalum cornutum and Bulbophyllum miniatum carried several flowers, and along the back were tall Cymbidiums.

Baron Bruno Schröder, Englefield Green, Surrey (gr. Mr. J. E. Shill), exhibited two magnificent examples of Dendrobium Thwaitesiæ, each bearing nearly 60 flowers of golden-yellow colour; also D. Model, with flowers of excellent formation and colour, and a selection of flowers showing the fine character of seedlings derived from it.

Geo. Wm. Bird, Esq., The Manor House, West Wickham, Kent (gr. Mr. H. W. Redden), showed Odontioda Madeline, with a spike of six large flowers, the roundly formed segments of solid reddish colour, except for a narrow white border to the sepals and petals.

Messrs. Flory & Black staged a novelty in Læliocattleya Montrose (C. Enid × Lc. Pizarro), with three large flowers, the segments flatly displayed and of rose-pink colour, the labellum much crisped and the throat yellow. Cattleya Prince Shimadzu of light colour, and very pleasing, was also exhibited.

J. J. Bolton, Esq., Claygate, Surrey, exhibited Odontoglossum Exworth with a spike of 12 flowers of chocolate-red colour, the petals having an overtint of crimson.

Messrs. Cowan & Co., exhibited Miltonia Bleuana var. Reine Elisabeth, an immense flower, the petals deeply stained at their basal area with reddish-purple. Also Brassocattleya Apollo, of fine size and colour, and Odontoglossum Eximillus, with flowers of purple colour, tinged with crimson.

MANCHESTER ORCHID SOCIETY.

March 20th, 1925.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the Chair), Messrs. R. Ashworth, A. Burn, A. Coningsby, J. Cypher, J. Evans, A. Keeling, J. McCartney, E. W. Thompson and H. Arthur (Secretary).

FIRST-CLASS CERTIFICATE.

Odontoglossum crispum var. Stanley Baldwin, large flower, four inches across, of fine formation, white, the petals fimbriated; from Mrs. Gratrix.

Odontoglossum Rosina, West Point var., a flower of good shape, of bright solid claret colour, with a narrow edging of white; from S. Gratrix, Esq.

Cattleya Douai var. Queen Mary, a fine variety over eight inches across, broad petals, lip with lemon-coloured lines; from Mr. J. Evans.

AWARDS OF MERIT.

Odontoglossum Alderley, a blotched variety of unknown parentage, and Odontioda Meteor, West Point var.; from Mrs. Gratrix.

Odontoglossum Chocolate Soldier (parentage unknown), and Cypripedium Cardemona, Haddon House var.; from P. Smith, Esq.

Oncidium chrysodipterum; from J. McCartney, Esq.

CULTURAL CERTIFICATE.

Mr. J. Evans, for Cattleya Douai var. Queen Mary.

GROUPS AND OTHER EXHIBITS.

S. Gratrix, Esq. (gr., Mr. C. Branch), received a Silver-gilt Medal for a fine exhibit of Odontoglossums of the crispum section, also Dendrobium species and hybrids, as well as Cypripediums.

Mrs. Bruce and Miss Wrigley (gr. Mr. A. Burns) were awarded a Silver-gilt Medal for a group of choice Cypripediums, select Lycastes and Miltonia hybrids.

Capt. W. Horridge (gr. Mr. A. Coningsby) staged Dendrobium Lady Colman, D. Austinii, and others.

Messrs. Cypher & Sons received a Large Silver Medal for a choice selection of Cypripediums, pleasing Dendrobiums, and scarce species, including Arpophyllum giganteum.

Messrs. Charlesworth & Co., staged Miltonia Wm. Pitt, the fine Vuylstekeara Rutherford's Sylvia and various Odontoglossum hybrids.

Messrs. A. J. Keeling & Sons staged Miltonias of fine quality, Cypripedium Daisy Barclay, and select Odontiodas.

Mr. J. Evans exhibited a distinct variety of Miltonia vexillaria, and Cypripedium Lawrenceanum.

April 3rd, 1925.

Members of the Committee present: R. Ashworth, Esq. (in the chair), Messrs. H. Astley Bell, A. Burnes, A. Conningsby, J. Cypher, J. Evans, G. Giles, A. Keeling, J. Lupton, E. W. Thompson, and H. Arthur (Secretary).

FIRST-CLASS CERTIFICATES.

Odontoglossum Crimson Morn (parentage unknown), round flower, pink ground, densely spotted with crimson; from S. Gratrix, Esq.

Odontioda Zenobia var. Rouge Dragon, well-shaped flower, reddish-chocolate, large flat lip, tip of column white; from A. Hanmer, Esq.

Brassocattleya Vilmoriniana, Rutherford's var., a large well-shaped flower, even colour, large round lip, bright yellow throat; from Col. Sir John Rutherford, Bart.

AWARDS OF MERIT.

Odontoglossum crispum var. Antinous; O. Dictune; and Cattleya Douai var. Imperator; from A. Hanmer, Esq.

Cypripedium Cardemona var. Beta; from P. Smith, Esq.

GROUPS AND OTHER EXHIBITS.

A Silver-gilt Medal was awarded to S. Gratrix, Esq., a large Silver Medal to A. Hanmer, Esq., and Silver Medals to Mrs. Bruce and Miss Wrigley, as well as to Messrs. Cypher & Sons, all of whom exhibited interesting groups of Orchids.

J. McCartney, Esq. staged Blc. Roumania superba, Bc. Enchantress and Miltonia Bleuana var. Our Queen. Messrs. Charlesworth & Co. exhibited Odontoglossum and Miltonia hybrids, Mr. D. McLeod showed Odontoglossums and Cypripedium Hera splendens, and Mr. J. Evans exhibited Odontoglossum Llewellyn.

April 17th, 1925.

Members of the Committee present: Capt. W. Horridge (in the Chair), Messrs. R. Ashworth, A. Burns, J. Cypher, J. Evans, J. Lupton, and H. Arthur (Secretary).

FIRST-CLASS CERTIFICATE.

Odontoglossum Avoca, West Point var. (eximium × King Manoel), a well-formed flower, beautifully blotched and marked with deep maroon, petals fimbriated; from S. Gratrix, Esq.

AWARDS OF MERIT.

Cypripedium Wrigleyanum (Curtisii × Gowerianum); from Mrs. Bruce and Miss Wrigley.

Odontoglossum crispum var. Lilac Time; from Mrs. Gratrix.

GROUPS AND OTHER EXHIBITS.

A Silver-gilt Medal was awarded to S. Gratrix, Esq.; a Large Silver Medal to Mrs. Bruce and Miss Wrigley; and a Silver Medal to Messrs. Cypher & Sons for interesting groups.

Messrs. Charlesworth & Co. staged various Odontoglossum seedlings, Mr. J. Evans showed Odontoglossum crispum var. Colossus, Oda. Royal Gem, and others. Capt. W. Horridge exhibited a spike of Cymbidium Lowianum with 24 flowers.

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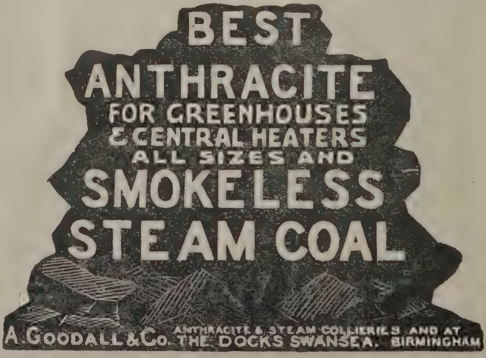

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THE ORCHID REVIEW.

Vol. XXXIII.] JUNE, 1925. [No. 384.

NOTES.

The Distribution of Orchids.—In the May issue of *Le Jardin d'Agrément*, M. Jean Houzeau de Lehaie discusses the distribution of Orchids. Although the adaptation of the seed-capsules appears to indicate that the wind is the principal distributing agent, animals, especially birds, are probably also concerned.

Dendrobium Griffithianum.—This fine old species has been making a splendid show in several collections during the past spring months. In habit it resembles the somewhat better-known D. densiflorum, and its large drooping spikes of flowers are of rich golden-yellow colour. It is a native of Burmah, but has not been imported so frequently, or in such large quantities, as some of the other Dendrobiums of that country.

Hexadesmia crurigera.—At the meeting of the Orchid Club, held on May 8th, a finely cultivated plant of this Central American species was exhibited by the Hon. Secretary, B. J. Beckton, Esq. It was originally introduced from Guatemala, and flowered in Mr. James Bateman's collection in 1843. It subsequently appeared in the collection of Consul Schiller, and is mentioned in his catalogue, a description of which appeared in our May issue. An illustration of this species was given in the *Orchid Review*, vol. xxv., p. 128.

Preservation of Orchid Flowers.—The issue of *Le Jardin d'Agrément* for March, 1925, contains methods of drying and preserving Orchid flowers. Only the flowers of terrestrial kinds are referred to, but doubtless the same treatment could be given to the flowers of other species and their hybrids. A comparative table shows that some flowers respond best to being treated with cold sand, while others require the more rapid process of pressing with a hot iron.

Messrs. Black & Flory.—It will be noted in our advertisement pages that the firm of Flory & Black has changed its title to that of Black & Flory.

The Orchid Club.—At the Annual Meeting of the Orchid Club, held at Manchester on May 8th, sympathetic reference was made to the loss which the club had sustained by the deaths of Mr. J. H. Walker, the first Hon. Treasurer, and Dr. R. N. Hartley, an active member of the Committee. Eight new members were elected during the session 1925-6. Letters of appreciation of the excellent work which the Club is doing for the advancement of the interest in Orchid culture were received from Sir George Holford and others. The following constitutes the Committee for 1925-6:—President, Sir George Holford, K.C.V.O.; Vice-presidents, Hon. H. D. McLaren, Dr. F. Craven Moore, George F. Moore, V.M.H., Sir William Thom; Hon. Treasurer, W. D. Beckton; Hon. Secretary, B. J. Beckton. Also A. T. Cussons, J. Jackson, W. Morton Jackson, and F. T. Paul, F.R.C.S.

PROTECTION AGAINST SLUGS.

It is undoubtedly true that the plants in a well organised Orchid establishment, whether commercial or private, should be entirely free from all injurious diseases and insects, yet such a condition is seldom found, and nearly all Orchid growers once in a while see such things as slugs.

Some time ago it occurred to me that perhaps I could obtain clear glass pots which could be inverted and placed under the pots in which the Orchids grow, and that such glass pots might be helpful in letting the light in under the potted plants, and, on account of their smoothness, make it harder for slugs to climb up to the roots.

I found none available, and therefore had, at my own expense, a mould made by the L. E. Smith Glass Company, Mt. Pleasant, Penn., U.S.A., and this firm has made for me several thousands of these glass pots, which I have installed in my greenhouses, and which seem to appeal to those who have seen them. I have had the rim of the pot made uneven so as to allow the air to pass underneath the pot, and I have had the opening at the bottom of the pot made very large.

I do not know that others will be interested in getting such pots, but I think it only right to notify the members of the American Orchid Society of this experiment, and further to say that the makers of these glass pots will undoubtedly supply them if desired to other users, and probably, for round lots, charge no more than the price I paid for the last lot, which was 72 cents a dozen.

It is only right for me to say that I have no interest in the Company making these pots, and that I am not financially interested in any way, directly or indirectly, in any orders that may be given for them or any purchases made of them. Albert C. Burrage.

AN AMATEUR'S CATALOGUE OF 1846.

IN our last issue particulars were given of Consul Schiller's catalogue of 1857, with illustrations of his Orchid houses as they appeared at that date. This reference to an early-day collection has aroused no small amount of interest among those of our readers who study records of the past, and on that account some notes concerning a still earlier catalogue of an amateur's collection will be appreciated.

The title page is "A Catalogue of Epiphytal Orchids cultivated in the gardens of F. G. Cox, Esq., Cedar Lodge, Stockwell, 1846." It was printed at the steam-press of W. H. Cox, 5 Great Queen Street, London, and consists of 32 pages, 6½ x 4¼, interleaved with blank pages, and bears on the cover "Orchideous Plants in the Collection of F. G. Cox, Esq."

This copy was at one time in the possession of Charles Pilcher, gardener to Sigismund Rucker, of West Hill, Wandsworth. The former name has been recorded in Lælia Pilcheriana (crispa × Perrinii), raised by Dominy, and described in 1868; and the latter in Anguloa Ruckeri, which flowered for the first time in the collection of Mr. Rucker during the summer of 1846. On October 15th, 1895, this catalogue passed from the hands of Charles Pilcher into the possession of Mr. de Barri Crawshay, as is noted within the cover, but whether by presentation or purchase there is no indication. All we know is that he preserved it for nearly thirty years. The late Mr. Crawshay bequeathed his Orchid books, records and manuscripts to the present Editor of the *Orchid Review*, among them being this catalogue, thus affording an opportunity of ascertaining and recording the contents of a possibly unique item of Orchid history—Cox's Catalogue of Orchideous Plants.

No less than 91 different genera were represented in this old-time collection. Hybrids did not then exist. It was not until 1847, the year following the publication of this catalogue, that Dean Herbert remarked "Cross breeding among Orchidaceous plants would perhaps lead to very startling results." Dominy, the pioneer of hybridising Orchids did not commence work until 1853, and it was three years later before the first flowers of a hybrid Orchid were seen, these being of Calanthe Dominyi.

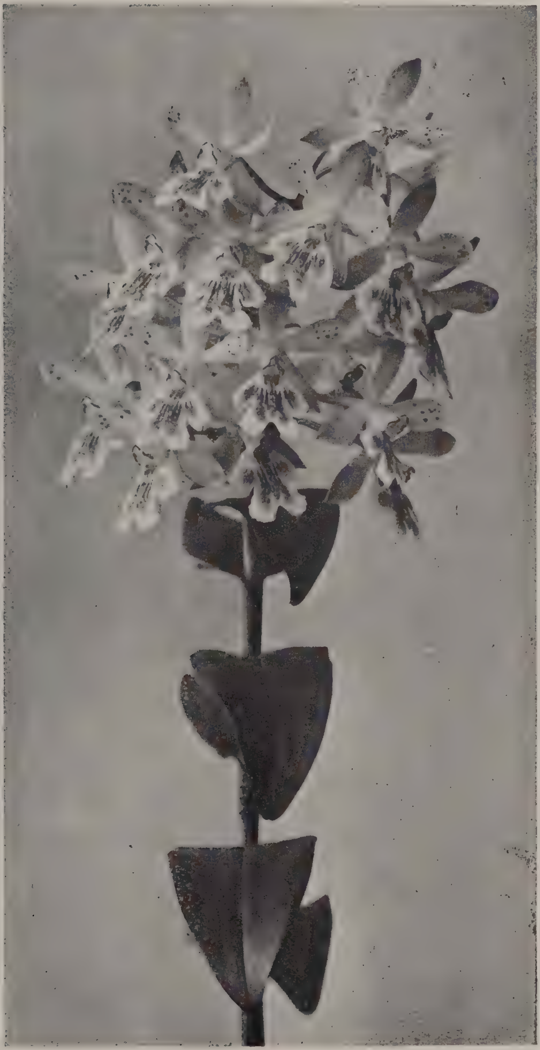
As was customary in the case of a catalogue of species, the native place is given of all the plants mentioned in Cox's catalogue. The genus Epidendrum appears to have been represented more than any other, some 44 species and varieties being enumerated; Dendrobium embraces 49 items, including six undetermined species from Borneo; Cattleya was represented by 25 species and varieties, and Oncidium by 61. Of the now popular Odontogloussum genus, the Cox collection contained but 18 representatives, while Cymbidiums had but five species. The Cypripediums were few and far between, comprising only barbatum, insigne, purpuratum, venustum, and two undetermined species. Stanhopeas were well represented, as also were Lælias and Lycastes.

The names of other Orchids have been written in by pencil under the respective genera, but it does not seem likely that these additions refer to plants that were in Cox's collection, for pencil marks have also been made against many of the printed items, which suggest that this catalogue was used, probably by Pilcher, to check off, or make comparisons with, Orchids in a collection of contemporary or slightly later date.

HYBRIDS OF EPIDENDRUM WALLISII AND E. ENDRESII.

IT is oftentimes remarked that many of the small-growing species are particularly interesting when their flowers are closely examined, and Epidendrum Endresio-Wallisii, although a hybrid, is no exception. It was first exhibited on January 12th, 1892, when a First-class Certificate was awarded by the Royal Horticultural Society. At the meeting of the same Society on February 24th, 1925, a little colony of some thirty plants of E. Endresio-Wallisii was staged from the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill, whose garden has long been noteworthy for rare species and uncommon hybrids. As the name suggests, this plant is the result of crossing E. Wallisii with E. Endresii. Four years later, E. elegantulum (Endresio-Wallisii × Wallisii) came into flower, and our reproduced photograph gives an idea of the habit of the plant, consisting of one or more reed-like stems of about twelve inches in height, the many-flowered apex producing a fine effect on so slender a plant. In order to still further increase the size of these pretty flowers, E. elegantulum was crossed with the larger flowering E. Wallisii, thus making the third successive mating of this species with E. Endresii. All of these hybrids respond well to simple methods of cultivation.

SCHLIMIA TRIFIDA.—The genus Schlimia forms a connecting link between Stanhopea and Maxillaria. It commemorates Louis Schlim, a relative of M. Linden, and a collector of Orchids for him in Colombia, and who discovered and introduced the type species, S. jasminodora, in 1850-51. The species sometimes seen in gardens is S. trifida, which has the aspect of a small Stanhopea. The flowers are of remarkable structure, very fragrant, and appear as if modelled out of wax, and, being inverted, the saccate lateral sepals have the resemblance of an ancient Greek helmet. It is believed to have first appeared in cultivation during the year 1874, in a collection of Colombian Orchids supposed to have been sent by Brückmüller.



EPIDENDRUM ELEGANTULUM.

Odontoglossum crispum var. The Premier.—A flower of this truly remarkable variety has been received from the collection of Philip Smith, Esq., Haddon House, Ashton-on-Mersey. It gained a First-class Certificate when exhibited at the Royal Horticultural Society on October 23rd, 1917. Not only is the flower of immense size, but the segments are developed to a degree far in advance of that seen in any imported plant, or in any previously raised seedling. No one expected that the flower of a species could be so much improved. It is one of the best of Messrs. Charlesworth's productions.

LISSOCHILUS STREPTOPETALUS

THIS African species was originally described by Lindley in 1826 (*Bot. Reg.* t. 1002) under the name Eulophia streptopetala, the Twisted-petalled Eulophia, with directions that it is a tender stove plant requiring to be cultivated in well-drained pots of light vegetable mould, in which a small portion of loam and silver sand had been mixed, a method of treatment that cannot be improved upon even with present-day knowledge. It was subsequently figured under the same name in the *Botanical Magazine* (t. 2931), where Graham remarks that the plant was received in 1828 from the garden at Kew, where it had been kept in the stove, growing in a pot among pieces of bark, the flowers being produced in April.

Lindley, in 1833, included this species in the genus Lissochilus (*Gen. & Sp. Orch.* p. 191), which appears to be its correct location. Regarding the genus Lissochilus, Rolfe has remarked (*Fl. Trop. Africa*, p. 70), that it approaches Eulophia very closely, and has been reduced to it, but the majority of the species are very easily separated by the small spreading or reflexed sepals, and the broad, often differently coloured petals.

Turning to Dr. Bolus, a recognised authority on South African Orchids, we find the matter discussed in his *Cape Orchids*, 1888, p. 104, where he says: "The satisfactory location of certain South African Orchids into the genera Eulophia, Lissochilus, Cyrtopera, and Cymbidium, was for a long time a great difficulty to students. After repeated efforts to reconcile apparent anomalies, the matter was submitted to the authorities at Kew, and Sir Joseph Hooker, Prof. Oliver, and Mr. N. E. Brown, considered it fully." Bolus next gives the views of these authorities, which as regards the genera in question are: "There appear to be no good grounds for separating Lissochilus from Eulophia; the character of the broad petals as a distinctive mark of Lissochilus breaks down, and the character of an uncrested lip, upon which Brown founded the genus Lissochilus, equally so. The question then arises, which genus should take precedence, since both names were published in October, 1821. The genus Eulophia has the largest number of species, and the adoption of this name would perhaps involve least change; besides which, Lissochilus is unsuited as referring to a smooth lip, while most of the species have a crest on the lip." Bolus gives a coloured plate of Eulophia streptopetala in his *Orchids of South Africa*, (t. 12). Rolfe upholds Lissochilus in his *Flora Capensis*, 1912, and we think it right to follow his decision.

At the meeting of the Royal Horticultural held May 14th, 1913, Mr. Van de Weyer, Clyffe House, Dorchester, exhibited Lissochilus streptopetalus, a very fine specimen bearing eight spikes of flowers, with bright yellow petals, and the smaller sepals green striped with brown, a Botanical

Certificate being awarded. On May 5th, 1925, the same exhibitor showed two plants of this species under the name Eulophia streptopetala, when a Cultural Commendation was given. These plants both carried a couple of tall spikes with upwards of thirty flowers and buds on each. One had been collected at Narroo Murru, British East Africa, and the other a darker variety, in low ground at Elmenteita.

THE GENUS ANSELLIA.

ALTHOUGH containing but few representatives, the genus Ansellia is worthy of attention by amateurs who desire to cultivate some of the larger-growing species, and thereby include in their collections a more varied assortment of plants than is possible when hybrids only are entertained. There appears to be a return of interest in these plants, but not to the extent that was seen thirty years ago, for multitudinous hybrids now claim attention, and nearly every amateur finds his houses fully occupied with seedlings that require more space each season. However, there are sometimes to be found odd corners that prove suitable places for some of the large plants, and of these the genus Ansellia includes a few that have attractive characters.

The genus was founded by Lindley in commemoration of Mr. Ansell, a gardener who accompanied the ill-fated Niger expedition of 1841-42. Ansellia is closely related to Cymbidium, but is chiefly distinguished by its different habit, its terminal inflorescence, and its bipartite (= four) pollinia.

A. africana was described by Lindley in the *Botanical Register*, 1844, sub t. 12. Stems tufted. 18-25 or more inches long. Leaves from the upper portion of the stem. Flowers two inches in diameter, light yellow-green spotted with brown purple. Figured in the *Orchid Album*, viii., t. 367. Native of Upper Guinea.

A. nilotica. Stems, leaves and inflorescence as in A. africana. Sepals and petals narrowly oblong, canary-yellow, heavily blotched with chocolate-brown. Disc of lip with three crenulate or verrucose keels. Native of Nile Land.

A. confusa has the stems and leaves longer than in A. africana. Flowers smaller, with the sepals and petals similar and sub-equal, narrowly oblong, light yellow-green spotted with brown purple. Lip two-keeled, or rarely with the middle keel slightly developed, verrucose or crenulate in front. Figured in Paxton's *Magazine of Botany*, xiii., p. 241. Native of Upper Guinea.

A. humilis has the pseudo-bulbs a little thickened in the middle, and six to nine inches long. A compact free-growing species with large panicles of lemon-yellow flowers blotched and barred with chocolate, each about two inches in diameter. The variety pallida differs in having the ground colour of the flowers milk-white. Native of Zambezi.

A. congoensis is allied to A. africana, but more floriferous. Sepals and petals are similar, light greenish-yellow, with dark purple-brown spots. The lip has whitish side lobes, veined with purple, and a narrow yellow front lobe. The two keels on the disc considerably diminish before reaching the middle of the front lobe. Native of Congo.

A. gigantea is in the habit of A. africana, but has smaller flowers of a light yellow tint, with very few narrow transverse bars. The deep yellow lip without warts on its middle lobe, and with more or less crenulate keels. Native of Natal. Reichenbach remarked that it has the same curious smell, making one think of musk and iodine at once.

In the *Revue de l'Horticulture Belge*, September, 1899, M. Em. Laurent stated that Ansellia congoensis is localised at the mouth of the River Congo. Large quantities had then been collected, and the species had become rare since the time of his first journey in 1893. At the mouth of the river a savannah climate prevails, with a dry season of five or six months. A. confusa inhabits several districts of the Congo basin. M. Laurent found it many times in the forest of Mayombe and in that of Massamba, along the old caravan route. He also found it in on the river of the Lualaba-Congo, and in other places. The distribution of A. confusa is therefore considerable, while that of A. congoensis appears to be very limited.

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VANDA CŒRULESCENS.—This pretty little species, a native of Burmah, has strap-shaped leaves of a leathery nature. The spikes bear from ten to twenty flowers of pale mauve-blue colour, the lip of rich violet with purplish-lilac auricles, and the conical spur tipped with green. It blooms during the months of March and April, lasting a considerable time in perfection.

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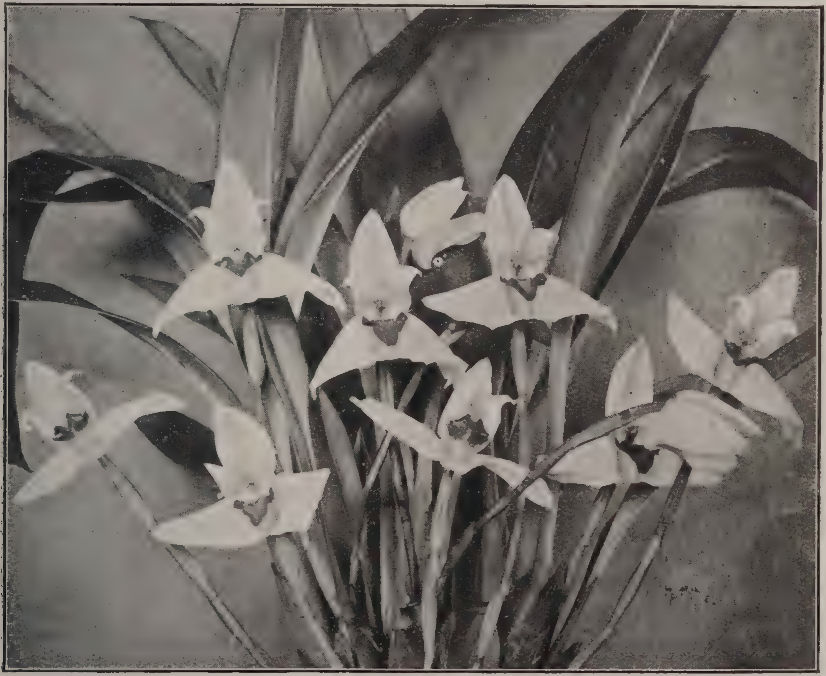
ORCHIDS AT KNIGHTSBRIDGE, LONDON.—On May 4th and five following days, Messrs. Sanders made a display of Orchids in the Floral Hall of Messrs. Harrods, London, S.W. Among the interesting plants were Chysis Chelsoni, the scarce Maxillaria præstans, several examples of Cœlogyne pandurata and Arpophyllum giganteum. Along the back rows were well-flowered examples of Dendrobium Devonianum, suavissimum and fimbriatum, while in front was a strong plant of Cymbidium Devonianum, with two many-flowered spikes. Odontoglossum Boadicea had large flowers of red and yellow colours, Cattleya Empress Frederick had a spike of four flowers, and Cattleya Mary Sander carried pure-white flowers. Many of the popular hybrids assisted in making a very attractive display.

MAXILLARIA GRANDIFLORA,

THE botanical history of this fine Maxillaria is somewhat obscure. It is unquestionably the Dendrobium grandiflorum of Humboldt and Kunth, as figured by them in their *Nova Genera et Species*, where its native habitat is given as the Andes of Paraguay. In dealing with the history of this plant, Messrs. Veitch remark in their *Manual of Orchidaceous Plants* that as no such mountains as the Andes of Paraguay are known in modern geography the habitat given by Humboldt is virtually valueless, although quoted by Lindley in his *Genera and Species of Orchidaceous Plants*, where the plant was first referred to Maxillaria. It was next dealt with by Reichenbach in Walper's *Annales Botanices* in 1863; he gives no description of the plant, but only the following brief quotation, apparently from a Lindenian source: "An epipyhte with oval flattened pseudo-bulbs, petals white as snow with a powdery yellow lip. Forests of Jaji, in the province of Merida, 5,000-6,000 feet elevation, Ocaña at 6,000 feet." But this evidently refers to Maxillaria venusta, which comes from that region and which has occasionally been confused with M. grandiflora. The next notice of it occurs in *L'Illustration horticole* of 1870, at that time edited by M. André, who described the plant from living specimens which had been



MAXILLARIA GRANDIFLORA.

sent by Wallis to M. Linden's horticultural establishment in 1867 from Peru (probably Ecuador is meant), its station being at an altitude of 5,000-6,500 feet. If we assume the word *Paraquayensium* of Humboldt and Kunth to be a clerical error for *Peruvianorum*, the habitat given by them can to a great extent be reconciled with that given by André. The M. eburnea of Lindley was gathered near Mount Meracævi, about 30 miles N.N.E. from Cimeralda, but this locality is as obscure as that given by Humboldt.

More recent information proves that M. grandiflora is widely diffused through Peru and Ecuador to Venezuela. The sepals and petals are milk white, the front part of the labellum vinous purple, striated, and the column yellow, spotted with red in front. In the year 1896 an albino variety appeared in the collection of Sir Frederiek Wigan. Every trace of purple had vanished, leaving the flower pure-white with only a little yellow on the disc. It would be of interest to learn if this variety is still in cultivation.

M. grandiflora is essentially an amateur's plant, and generally succeeds well in both small and large collections. It enjoys a cool atmosphere, the coolest end of the Odontoglossum house providing the most suitable place, and requires a very moist atmosphere. It is, however, advisable to remove the plant when flowering to a slightly drier atmosphere, as the flowers are liable to become spotted when excessive moisture prevails, especially when associated with a low night temperature. This is one of the few Orchids possessing flowers that may be described as deliciously fragrant.

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AGANISIA CYANEA.—A plant rarely seen, but remarkable for the pure blue on its labellum. Originally imported by Messrs. Loddiges from Colombia. This plant is also known as Warrea cyanea.

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ERIOPSIS RUTIDOBULBON.—This rarely-seen species was introduced to the Royal Botanic Gardens, Kew, in 1849, by Purdie, who found it growing on the stem of a Palm tree in the temperate region of Antioquia, in North Colombia, at an elevation of about 3,500 feet. Purdie remarked that it is very rare in the region in which he travelled, and he succeeded in bringing home only one plant, the only one that he met with. Pseudo-bulbs ovate-oblong, 2-3 inches long, of a dark black colour singularly rough or wrinkled. Leaves broadly lanceolate, striated and somewhat coriaceous. Scapes 12-18 inches long, dark purple, bearing a many-flowered raceme. Flowers 1½-2 inches in diameter, sepals and petals orange-yellow, red-purple at the margin, lip obtusely spurred at the base, broadly ovate, three-lobed, the disc lamellated with a dull crest, the front lobe small, white with dark purple spots, the rest of the lip orange-red dotted with dark purple. Column greenish.

ORCHIDS FOR THE AMATEUR.*

By W. H. HATCHER.

THERE is no doubt that the cultivation of Orchids is a very fascinating hobby to the amateur who is fond of growing plants under glass. At many of the flower shows where Orchids are being exhibited, one often hears the remark, "They are very beautiful, but we cannot grow them as they require special houses and a great heat." I should like to assure any amateur who is interested in the cultivation of Orchids that it is not necessary to have a special house, and that the plants do not require great heat. In my opinion, after many years' experience, too much fire heat is one of the greatest errors that can be made in the cultivation of Orchids, as it not only adds to the cost, but is detrimental to the well-being of the plants. To grow successfully some of the species, the aid of fire heat *is necessary*, but the idea of great fire heat can safely be dismissed. Orchids can be grown in any greenhouse if the amateur will study the cultural details which I will endeavour to explain.

For the guidance of the amateur who has had little or no experience, I will describe two sections: "Cool," and "Intermediate." This will embrace a large number of species and hybrids, which, with careful selection, will give something in flower during the greater part of the year, especially late autumn and early spring.

COOL HOUSE ORCHIDS.

Odontoglossums and Odontiodas are the principal subjects for the cool house. They are easily grown and during the summer months require no fire heat. They are very useful to the amateur who is fond of a "button-hole," and the lasting qualities of the flowers are remarkable. During the past few years the skill of the hybridist has been so great with the Odontoglossums and Odontiodas that the amateur can now obtain varieties from pure-white, rose and purple, to the beautiful scarlet tints. There is no doubt that the constitution of the hybrids is much better than that of the species, and that they also grow more freely.

Although the species may not grow quite so robustly, many of them are very interesting and beautiful, and are well worth growing. Such kinds as Odontoglossum crispum, Pescatorei, Harryanum, triumphans, Rossi majus, etc., are well worth a place in any amateur's collection.

Other subjects that may be grown in the cool house are Cymbidiums, a very useful and splendid section. The flowers are produced on long spikes and last a considerable time in perfection. C. Lowianum, Tracyanum and insigne are perhaps the best of the species. Here, again, the hybrids which

* Paper read at the meeting of the Royal Horticultural Society, April 21st, 1925.

have been produced give a very large and varied selection for the amateur, and all are well worthy of cultivation.

Miltonias may be grown at the warmest end of the cool house. They comprise a very showy section, and are most useful for decorative purposes. Some of the Cypripediums also grow very well at the warm end of the cool house. C. insigne Sanderæ, insigne Harefield Hall, and the hybrids derived from insigne, are well worth a place. Lycastes, Masdevallias and Oncidiums also thrive excellently in this house.

Shading the Cool House.—Possibly one of the most common causes of failure with the amateur is in not shading the cool house in the early spring. Odontoglossums do not like the sun shining directly on them. If too much light is given early in the spring the back leaves are almost certain to fall. I suggest stippling the glass early in the spring, using the blinds when the sun gets stronger, as after our dull winter months the plants cannot withstand the strong light. One is often tempted to allow the sun to shine on the plants after the dull days, but I have seen serious harm come to plants so treated.

Potting.—This may be safely done when the new growth is half made. Pot firmly and keep the plant below the rim of the pot. Early spring or late summer is the best time to pot Odontoglossums, using a compost of equal parts osmunda and sphagnum moss. If a plant is correctly potted, it may be lifted from the potting bench by its back leaves without any fear of it leaving the pot. Above all things try and keep the fibre of the potting compost vertical. Avoid rolling the compost when placing it round the plant. In potting, it has been observed that if the potting compost is rolled in the sphagnum moss on the surface seldom grows, and the surface then becomes sour, and on that account difficult to water.

When repotting, remove all dead roots and decayed compost. If the plant only requires a larger pot, and the compost is good, I advise picking out a little of the compost, as the plant is apt to become dry if new compost is only placed around the existing ball, which is usually very solid. If the plant is in bad health through over-flowering or any other cause it may be advisable to put it back into a smaller pot, adding a little more sphagnum moss to the compost.

Watering.—Perhaps this is the most difficult part for the amateur in the cultivation of Orchids. If the plant is newly potted care must be taken not to give too much water until root action has taken place. When the plant is well rooted give a good watering and then leave it for several days. A good deal depends on the weather conditions and fire heat as to how quickly the plant dries out. If the sphagnum moss keeps green the plant does not require water.

Ventilation.—Orchids do not like a stuffy atmosphere. If weather conditions are mild give top ventilation. Do not open the top and bottom ventilators at the same time, as this is likely to create a draught, which is detrimental to the plants. If possible, have open staging to stand the plants on. A second staging to hold moisture may be placed just over the hot-water pipes, but leave a space between the walls and second staging to let the air circulate freely under the stage. I have seen many poorly grown Odontoglossums in houses where the staging is built into the wall, thus leaving no air space; this is often the greatest cause of failure to grow Odontoglossums.

Insect Pests.—Thrip is the greatest enemy of the Odontoglossums. The damage is often done before one is aware of the presence of this insect. Spraying with an insecticide periodically is the safest means to keep the plants clean and healthy. Fumigation is necessary if the plants are badly affected with thrip, but as the plants themselves do not care for it this should only be done when necessary, and not more than once a month.

Temperatures.—In winter the night temperature should be 50 to 55 degrees, rising a few points during the day. In very severe weather, should the temperature fall below 50 degrees, keep the plants and houses drier.

Intermediate House.

This house, owing to the extra heat, gives the amateur an opportunity of making a more varied selection. In it can be grown Cattleyas, Læliocattleyas and Cypripediums. Cypripediums are no doubt great favourites, especially for winter flowering, owing to the lasting qualities and the great variety which it is possible to collect—credit again to the hybridist. Many amateurs, when they first see Cypripediums, do not admire them so much as some of the other species, probably taking C. insigne as the standard they are familiar with, but it is now possible to obtain varieties that are excellent in formation and colour, from deep yellow to purple and white, with attractive spotting which enhances their beauty. Cypripediums are fairly easily grown if shaded from bright sunshine. They may be potted immediately after flowering. Osmunda fibre, sphagnum moss, a little loam and a few small crocks make a suitable compost. They are moisture-loving plants and must at no time be allowed to become dry at the roots. A slight spraying overhead in bright weather is very beneficial.

Cattleyas and Læliocattleyas.—To the amateur who is fond of colour and wishes for something decorative, this section of Orchids will certainly give him great opportunities. The hybrids that have been raised between Cattleyas, Lælia, and Brassavola Digbyana have made it possible by selection for flowers to be produced all the year round, although they are perhaps found most useful in the spring and autumn months. The extensive range of colour that it is now possible to obtain—pure white, yellow, mauve, and beautiful tints that are difficult to describe— makes this section very much sought after.

These plants are not difficult subjects to cultivate, so long as a few general points are followed as to treatment. Probably no other Orchids suffer more from being potted at the wrong time than Cattleyas and Læliocattleyas. In potting, it is always safe to pot when the new roots are just pushing from the base of the last growth made. If potted at any other time there is a great risk of the bulbs shrivelling, and the chances are that the plant will have a struggle to live; in any case it is best to watch for the new roots. After potting, water should be given sparingly until the roots enter the new compost. A light syringing overhead is usually sufficient for this purpose. During the summer months, Cattleyas and Lælias benefit greatly if the house is closed during the afternoon, letting the temperature rise, damping the house thoroughly, and rolling the blinds up when safe from the sun's rays. A little ventilation can be given towards the evening if outside conditions are favourable. For potting Cattleyas and Læliocattleyas use more osmunda fibre and very little sphagnum moss, and pot firmly.

WATERING.—When watering, give a thorough soaking when the plants are rooted, then leave to dry out again during hot weather. Spraying overhead is beneficial. When the new bulbs are made up, give a little more air and water sparingly, just enough to keep the bulbs from shrivelling. Other Orchids suitable for the Intermediate house, if grown at the cool end, are Cymbidiums, Miltonias, Lycastes, and a few of the Oncidiums. Dendrobium nobile and its hybrids may be grown in this house. The temperature for the Intermediate house during spring and summer months should be around 65 to 68. In winter, 55 to 60, according to the outside conditions prevailing.

INSECT PESTS.—The same methods may be adopted as for the cool house. Scale is sometimes troublesome on the Cattleyas and Læliocattleyas. This can be kept under by being brushed over with methylated spirit. Any amateur who grows stove plants, and has a very warm house, can successfully grow Dendrobium Phalænopsis, D. formosum, D. Wardianum, and a few other species of the genus; also Phalænopsis Rimstadiana and P. Schilleriana. Oncidium Lanceanum grows well in a warm, moist house.

Having tried to give general ideas to the amateur, I advise beginners to get into touch with any of the trade growers, who are at all times willing to help the amateur in making a selection of the particular class of Orchid he wishes to grow. I have seen many small amateur collections recently, and have been very much impressed with the number of different species of Orchids growing together and producing a very satisfactory percentage of flowers. This convinces me that if reasonable care and attention are given, amateurs, in a small way, can safely give Orchids a trial. They will, I am sure, get a great amount of pleasure from them. It is very important for the successful cultivation of Orchids that the potting should not be neglected. Unfortunately, one often finds the Orchids more neglected regarding potting than any other kind of plant grown under glass. This is the surest way to failure and disappointment.

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ANSWERS TO CORRESPONDENTS.

SHADING MEXICAN LÆLIAS.—Plants of similar habit to Lælia anceps require very little shade, in fact, in the north of England excellent results have been achieved by allowing all the sunshine possible to reach them. Further south, with more powerful sunshine, slight shading appears beneficial during the brightest period of the summer. But when allowing full sunshine, it is most essential that ample ventilation be also given, otherwise the temperature of the house will rise so high that the foliage will become burnt. Unshaded houses dry up very quickly, and much damping down is needed, hence it is questionable whether the extra labour involved is worth attempting. We think equally good results will follow if light shading be used in company with a moderately moist atmosphere. If "A. G. R." has a suitable place for Lælia anceps he will be rewarded with flowers from this species about Christmas time. L. anceps Chamberlainiana is the largest and by far the finest of the coloured forms.

IMPORTING ORCHIDS.—We do not recommend importing Orchids with a view to selling them on a profitable basis. Our correspondent who has friends in India, might be able to obtain from them a few of the showy Dendrobiums, and perhaps some of the smaller growing kinds that are generally classed as of botanical interest. As some knowledge of packing Orchids for a long journey is necessary, it is generally better to place the matter in the hands of an experienced dealer. The comparatively cheap prices at which some dealers now offer recently collected species is an attraction that should not be overlooked.

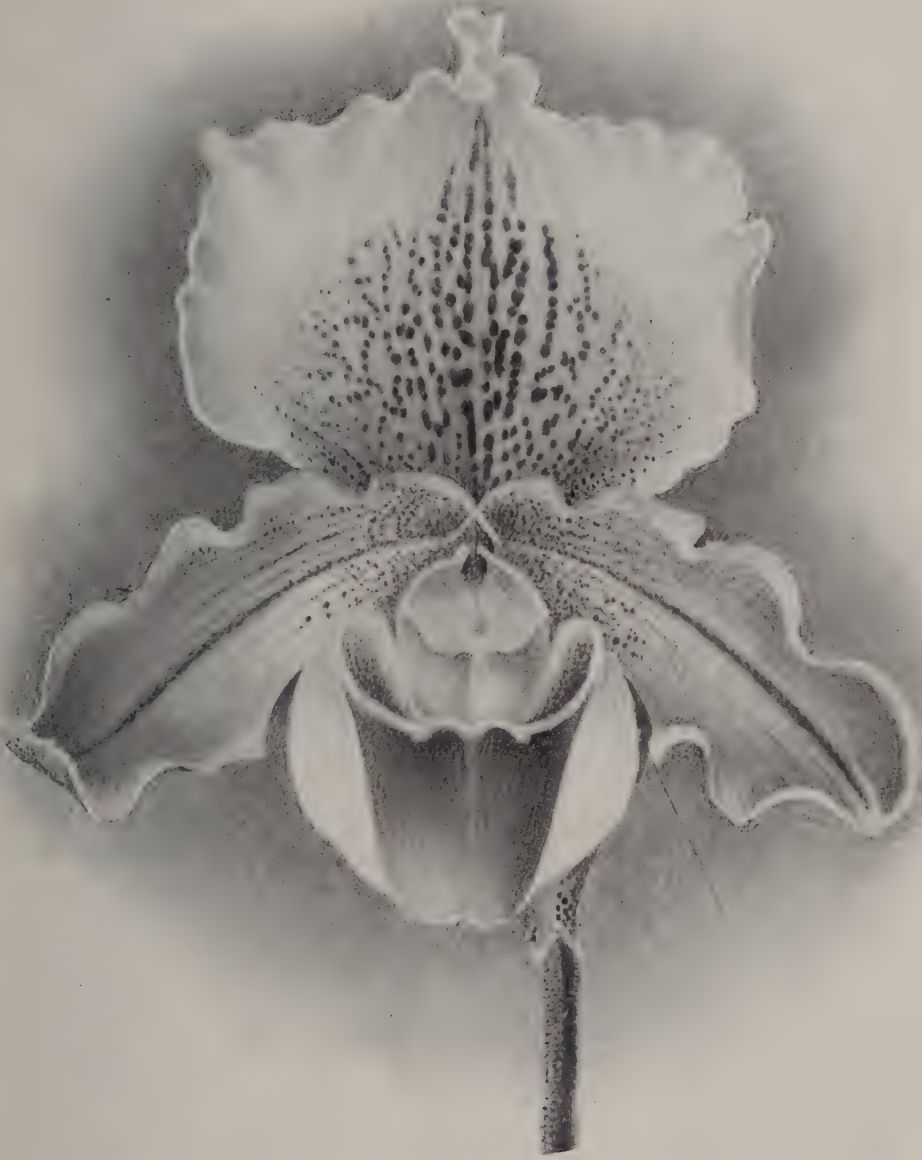
PENDULOUS HABIT.—The so-called drooping condition of Epidendrum falcatum referred to by "Beginner," is no indication of a weak constitution. This species is a native of Mexico, and is always found growing in an inverted position, whether on the trunks of trees or on bare rocks. Very little shading should be given. Other Orchids of similar habit exist in Masdevallia deorsa, although this plant requires much shade, and in Cattleya citrina, the last mentioned also a Mexican species.

CATTLEYA DOWIANA AND C. AUREA.—Although considered distinct species by some cultivators, the general opinon is to regard the Colombian C. aurea as a geographical form of the Costa Rican C. Dowiana. Cattleya aurea has been raised from seed in England, and plants have also been produced by crossing C. aurea with C. Dowiana, the constitution of the latter being quite satisfactory. Cattleya Hardyana is a natural hybrid between C. aurea and C. Warscewiczii (gigas), and comes from Colombia, but it has on more than one occasion been raised from seed, so there can be no question as to its hybrid nature.

ONCIDIUM VARICOSUM.—Our correspondent who wishes to make experiments in stimulating the growth of Oncidium varicosum by applying certain manures will almost certainly experience worse failures after the first year's treatment. Unfortunately, no really successful method of culture is known, and periodical importations are the only reliable means of maintaining this species in flowering condition. Now and again one sees a plant that has been kept alive for ten or more years, but only in a far less vigorous state than is commonly witnessed in recently imported plants.

REMOVING OLD FLOWER-SHEATHS.—The damage done to the apex of the Cattleya bulb appears to have been brought about by water lodging in an old flower-sheath and causing its decay. When cutting the flowers, the lower portion of the stalk and of the sheath is frequently left, and unless removed is a source of danger. The best way is to split the old sheath down to its base and carefully pull off each side separately, the base of the flower stalk can then be easily severed with a sharp knife. When this is done soon after the flowers are cut there is little chance of any dead tissues becoming decayed and affecting the actual bulb. Our Kentish reader must not take this advice as applying also to Odontoglossums, and similar cool-house plants, for with them an excess of moisture is not so detrimental, and the flower spikes are produced from the base of the bulb, and without any sheath.

DAMPING DOWN.—It is necessary to damp down the floor and under the staging almost every day in the year, and even more often during the growing period of Cattleyas and other similar plants. The practice adopted by "A.G.K." of syringing the hot-water pipes is not to be recommended, for although much atmospheric moisture is immediately produced, the pipes quickly become dry again, and the effect is soon lost. A much slower and continuous evaporation is advisable, such as is produced by moist coke, or cinder ash, covering the floor. A second staging placed beneath the plants at a distance of six to twelve inches, and covered with similar moisture-holding material, is well worthy of the slight extra expense. An increase of fire-heat generally means more frequent damping down, but care is necessary when very cold weather prevails and inside temperatures are low.



CYPRIPEDIUM ALPORT CÆSAR.—This elegant Cypripedium resulted from the crossing of Aeson giganteum with Minos Youngii, and has for several past years been in the collection of Samuel Gratrix, Esq., "West Point," Whalley Range, Manchester. C. Aeson was produced by crossing insigne with Druryi, and C. Minos by crossing Arthurianum (Fairrieanum × insigne) with Spicerianum. Of the four species thus combined in the making of this hybrid, C. Spicerianum comes out strongly in the broad dorsal sepal of porcelain-white nature, the slight spotting on this organ being derived from insigne and Fairrieanum, evidence of the last mentioned species being also seen in the habit of the two lateral sepals. Notwithstanding the enormous number of Cypripedium hybrids that have been raised, enthusiasm is as strong as ever in this section, and the difficulties of obtaining something really distinct act rather as an encouragement than otherwise. Not only are coloured forms being worked at, but the production of a large flower of pure-white nature is also being entertained. Such flowers as those of C. niveum possess the desired white character, and when they can be produced in a similar size to those of the well-known C. insigne Harefield Hall then the hybridists will indeed have earned the gratitude of everyone interested in the genus.

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North of England Horticultural Society.—The spring show of this Society was held at Harrogate on April 16th and 17th. A Gold Medal was awarded to Messrs. Mansell & Hatcher, and a Silver-gilt Medal to Messrs. A. J. Keeling & Sons, for groups of Orchids. Awards of Merit were given to Brassocattleya Beaumont, Odontioda Borda var. sanguinea, both staged by Messrs. A. J. Keeling & Sons, and to Odontioda Meteor, shown by Messrs. Mansell & Hatcher.

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Obituary.—It is with much regret that we have to announce the death of Mr. William Markham, better known to many under the name of Kelk, who had been in the employment of Messrs. Protheroe & Morris for the long period of 53 years, and was actively engaged up to a year ago. He was 71 years of age. It was just after the sale of the Ashtead Park collection of Orchids in May, 1924, that Mr. Markham had a break down, and though he resumed his duties for a little while, he never completely recovered, and for the past six months he had been confined to his bed. "Kelk" was very well known amongst Orchid growers and fanciers, and to a lesser extent amongst Nurserymen in the home counties. He had a remarkable memory, and it could be almost said of him that he never forgot a plant when once he had seen it. His interest in Orchids commenced at a time when the collection of these plants was almost in its infancy, and he witnessed most of the sensational happenings of the boom period, and about which he could always relate many interesting anecdotes. He also possessed a very extensive knowledge of general horticulture, and few people could correctly name so many different plants.

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Royal Horticultural Society.—Meetings will be held on June 9th and 10th, 23rd and 24th, and the Amateur Show on June 30th and July 1st.

CULTURAL NOTES.

TEMPERATURES.—The temperatures for the next month or two will be easily maintained, but one must always be on the watch for cold snaps, which are not infrequent. The East Indian house should not be allowed to fall below 70° at night, with a rise of 5° to 10° during the day in sunless weather. More frequently than not these temperatures will be exceeded, but one should not strive after a much higher night temperature. The Cattleya house may drop at night to 65°, and even to 60° in the morning, and the Intermediate house 5° lower. It is not so much a question of the actual temperatures, as of, literally speaking, good breathing conditions. We learn that in the forest the dew falls at night, and that the plants become saturated, but I should not advise this to be copied at home, with perhaps some reservation in the case of Odontoglossums. A stagnant night atmosphere is bad, even when warm; when cold, of course, it is much more dangerous. The Odontoglossum house should not now be allowed to drop much below 55°, and it may be necessary now and again during the summer to turn on a little heat in this house.—*J. M. Black, June*, 1906.

Maxillaria Sanderiana.—The finest of all the Maxillarias will be flowering or just past flowering, and should be potted or top-dressed as soon as it starts to grow. Baskets are better than pots for it, as they allow the flowers to push through the sides and bottom of the baskets; it also shows to better advantage when grown and suspended from the roof. The flowers are striking, and when staged among Cattleyas it quite outshines them in beauty, and also holds itself well. The plant requires an intermediate temperature, or the cool end of the Cattleya house will suit it. Plenty of water should be given during the growing season, and just sufficient to keep the bulbs plump during the resting period. The leaves should also be well syringed during the growing season. Osmunda fibre, leaves, and a little moss, with plenty of small crocks mixed in will make a good compost. The plants should be placed in a moist, well shaded position till they get well established, when they can be put into their growing quarters. They like a fair amount of sunshine and plenty of air; if they are grown soft the leaves will spot.—*W. H. Morgan, June*, 1909.

Treatment of Orchids for Exhibition.—Those of us who exhibit Orchids more or less all the year round know too well the evil effects on the plants, but with some preparation beforehand, and careful treatment after their return to the houses, much can be done towards reducing the mischief. It often happens that the plants being shown are out of the houses for five or six days, and in some cases during most of that time they have only the protection that a canvas structure affords. There must of necessity be entrances, and plants that in a general way at home are treated so that no direct air is allowed to play upon them have to put up with cold draughts and any weather that may come along, so that unless the plants have been in some degree hardened and prepared, disaster will frequently follow.

All plants that are grown in warm structures should be removed a few days beforehand to cooler and more airy houses, and they should be kept well on the dry side before being packed, and allowed to remain so during the time they are at the exhibition. My experience has taught me that plants that have been well dry from the time they were removed from the houses till their return are the ones that suffer least, but it is not so important with such plants as Cymbidiums, Odontoglossums, and other cool-grown varieties, as it is with Cattleyas, Lælias, Phalænopsis, etc., but in all cases the least harm accrues when they are on the dry side.—*W. P. Bound, June,* 1907.

SOBRALIAS.—This is a beautiful genus, and the plants themselves are very decorative when kept in good condition. Most of the varieties are summer-flowering, and the stems vary in height from one to six feet. The flowers are very handsome, many being equal to Cattleyas, and S. macrantha alba is very beautiful when perfectly grown and flowered. They are not difficult subjects, and they will grow well at the warm end of the Cattleya house or plant stove, and they will hide an ugly gable end all the year round. The individual flowers do not last long, but they produce several flowers on a stem, one just going over as another is ready to burst and fill its place, which gives them a fairly long flowering season. They like plenty of pot room, as they make a lot of strong fleshy roots, and plenty of space must be left for water, of which an ample supply must be given during the growing season. The leaves must also be kept clean by syringing. They should never be allowed to become parched, as the stems are only reeds, and cannot support themselves for any length of time if dry. Even in dull weather they should be kept just moist, but not saturated. If the leaves are allowed to drop they are very unsightly, and will make stunted growths the following season. They should not be disturbed unless the compost is sour, or likely to go sour before another year, as they object to being disturbed, and care must be taken not to break more roots than is really necessary. When breaking up specimen plants and re-making, all the small pieces can be potted in small pots, and shifted on as they fill the pots with roots. They then soon make specimen plants, and the strong pieces get the advantage of more growing space. A compost of loam, leaves and peat, with plenty of crocks and charcoal, will make a good growing mixture for them. The pots should be well crocked, to allow of a quick drainage. Keep them well syringed several times a day for a time after repotting, as it helps to keep the foliage from dropping.—*W. H. Morgan, June,* 1909.

NANODES MEDUSÆ.—This is an extremely curious and striking species, and has short, leafy stems, though, instead of growing erect as others do, the weight of its thick, fleshy leaves soon causes them to take a pendulous direction. The flowers, which are produced singly or in pairs from the apex of the completed new growths, are perhaps more curious than beautiful, yet there is something very striking and unusual in the deep purple, heavily-fringed lip which takes the eye immediately, and altogether it is a most desirable cool-house species. It should be grown in pans or baskets, and suspended in the Odontoglossum house, and in other respects treated exactly as the other inmates.—*H. A. Burberry, June*, 1899.

CYPRIPEDIUM NIVEUM, bellatulum, concolor, and Godefroyæ will now be passing out of flower, and should be overhauled, potting those that have become loose and those that have got in a sour state. Any that d› not require potting will be benefited by having some of the surface material removed and new added. Speaking generally these are difficult Orchids to keep in vigorous health. I believe most failures can be attributed to keeping them much too dry, and potting them in shallow pans in light material. Yet from time to time one meets with successes brought about by quite different means, so that what may be the correct way in a place that has a high elevation may be quite wrong in a low and damp situation. The compost used by us consists of two parts good loam, retaining all the fine particles, to one part peat, mixed with some sand and small crocks.

Ordinary pots, provided with holes for suspending, are preferable to pans, as they give greater depth; an important point, as the roots like to strike down. Before starting to pot have at hand a good supply of pieces of soft red brick, broken to about the size of walnuts and less. Place one or two pieces over the bottom, then let the roots go down as straight as possible, and build up around them with the pieces of brick and compost, the surface being finished off with the compost only. My experience has been that surfacing with sphagnum is very detrimental. When potted thus water will have a very free passage; in fact, we find it nearly impossible to get them too wet, but the important point is to see they never become dry.

We suspend ours in the Cattleya house, over the path, where they can be easily watered and syringed. I know it will seem strange to many to treat them in this way, and my advice to anyone who is now growing them successfully on some other principle is to stick to it, but to those who have found difficulty in maintaining them in health try a few, at any rate, on this system. When dealing with varieties that have always died after they have been in this country a few years, I am a strong believer in trying to find a new way of killing them, on the chance that we may learn how to grow them. It gets rather monotonous seeing them die the same way every time.—*W. P. Bound, June*, 1907.

THE ORCHID CLUB.

THE Second Annual Meeting of the Orchid Club, held at Manchester on May 8th, was the occasion of an elegant and interesting display of Odontoglossums, Odontiodas, Miltonias, and various species.

PREMIER DIPLOMAS.

Odontoglossum Tyntesfield (parentage unknown); from Dr. Craven Moore. A huge round flower of excellent quality, 4½ inches the petals, which are two inches deep. The sepals and petals are flat, overlapped, white, with a lilac-rose blotch on the inner halves; the lip is very large with two lilac-rose blotches below the yellow crest.

Odontoglossum Cramore (St. James × Mars); from Dr. Craven Moore. A beautiful flower, 3¾ inches across the petals, which are 1¾ inches deep. The segments are well overlapped, giving the flower a round form. The sepals and petals have a large crimson blotch with a broad white fimbriated edge. The large oblong, flat lip bears a large crimson blotch.

Odontoglossum crispum var. The Bride; from Dr. Craven Moore. A lovely white form, 3½ inches across the petals, and of excellent shape. The lip has a golden-yellow flush beneath the crest.

CERTIFICATE OF CULTURAL COMMENDATION.

To Mr. W. A. Stewart, for Miltonia Bleuana rosea.

GROUPS.

Dr. Craven Moore (gr. Mr. Gilden) staged a magnificent group of Odontoglossums and Odontiodas, combined with heavily-flowered plants of Dendrobium Thwaitesiæ, Veitch's var., which, together with the full spikes of white O. crispum, formed a lovely combination of colour.

B. J. Beckton, Esq. (gr. Mr. W. A. Stewart) staged a group of Miltonia Bleuana, including the Daisy Bank variety, which was much admired. Other plants of interest were Angræcum Sanderianum and A. Leonis, the Jamaican Broughtonia sanguinea, and Hexadesmia crurigera, a Costa Rican plant bearing some fifty sweet-scented flowers of snowdrop-like formation.

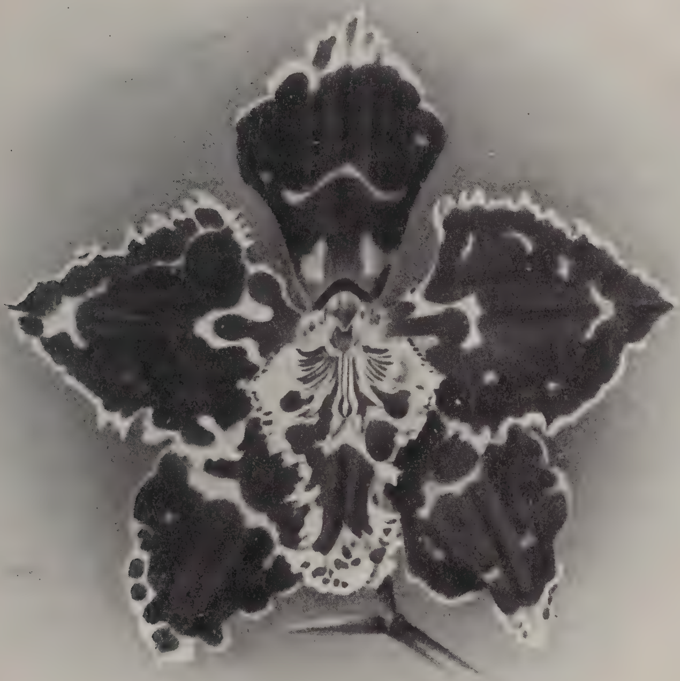
A. T. Cussons, Esq. (gr. Mr. F. Cookson) staged an interesting group, containing a beautiful plant of Angræcum sesquipedale, several examples of Oncidium Marshallianum, Cypripedium glaucophyllum, and Eulophia Saundersianum, as well as many other species.

* * *

ODONTOGLOSSUM ASPERSUM.—A charming plant that turns up on rare occasions in importations of O. Rossii, of which it is a natural hybrid, the other parent being O. maculatum. At first sight it gives one the impression of being a yellow variety of O. Rossii, but further inspection clearly shows the influence of the other species.

ODONTOGLOSSUM DREADNOUGHT.

THIS elegant hybrid was exhibited by Messrs. Sanders at the meeting of the Royal Horticultural Society held on April 6th, 1909, when the parentage was given as Prince Albert × sceptrum, and the flower described as being a large yellow hybrid heavily blotched with red-brown, and showing a good deal of the influence of O. triumphans (*Orc. Rev.* xvii, p. 148). O. Prince Albert was exhibited by Messrs. Sanders at Ghent, about the year 1900, when some doubt was felt regarding its exact nature.



ODONTOGLOSSUM DREADNOUGHT.

Subsequently it was recorded as a variety of O. luteopurpureum. It is also of interest to note that O. sceptrum was formerly considered a variety of O. luteopurpureum, but present-day authorities regard it as a distinct species. It differs from O. luteopurpureum in having smaller flowers with broader segments and a more regular contour. The correct parentage of O. Dreadnought is therefore O. luteopurpureum var. Prince Albert × O. sceptrum, the yellowish segments are heavily blotched with reddish brown.

ROYAL HORTICULTURAL SOCIETY.

May 5th, 1925.

MEMBERS of the Orchid Committee present: Sir Jeremiah Colman, Bart. (in the Chair), Lieut.-Col. Sir George Holford, Sir Frederick Moore, Messrs. Gurney Wilson (Secretary), Clive Cookson, E. R. Ashton, R. Brooman White, T. Armstrong, John Cowan, H. H. Smith, J. E. Shill, F. K. Sander, Stuart H. Low, H. G. Alexander, C. H. Curtis, H. T. Pitt, F. J. Hanbury, J. Wilson Potter, A. Dye, and Robert Paterson (visitor).

FIRST-CLASS CERTIFICATE.

Odontoglossum White Admiral; from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury. Although the parentage of this plant has not been recorded, it shows evidence of O. Pescatorei in the otherwise crispum-like flowers. The full spike bore ten large flowers, unusually thick in texture, and with the segments broadly developed, white, except for a slight rose tint on the two lateral sepals, and an oblong crimson blotch on the central area of the wide labellum.

AWARDS OF MERIT.

Miltonia Princess Mary, Stamperland variety (M. Hyeana × M. Bleuana); from Robert Paterson, Esq., Stamperland, Cathcart, Glasgow. An attractive hybrid with a spike of five large flowers, the sepals flushed with crimson-rose, and the petals to a more extensive degree, the labellum has a brownish mask near its basal area.

Odontoglossum Eldorado (eximium × Lakiniæ); from Messrs. Stuart Low & Co. A showy hybrid with a spike of seven large flowers of fleshy substance, the segments symmetrically marked with reddish brown, and the labellum having a bright yellow spiny crest.

Odontoglossum Fabia var. Sir Christopher Wren (Aglaon × eximium); from J. J. Bolton, Esq., Claygate, Surrey. Flowers of medium size, but rendered distinct by their crimson-red colour which is equally suffused, except for a narrow white margin to all the segments.

Sophrolæliocattleya St. Gothard (S. grandiflora × Lc. St. Gothard); from J. J. Bolton, Esq., Claygate, Surrey. One of the finest of the hybrids derived from S. grandiflora. The plant carried a single flower, large for its kind, and of blood-red colour throughout all the segments.

CULTURAL COMMENDATION.

Lissochilus streptopetalus; from Wm. Van de Weyer, Esq., Clyffe House, Dorchester. Two well cultivated plants of this species from British East Africa were staged, each bearing a couple of spikes, with numerous flowers and buds. The specific name refers to the twisted petals, which, with the labellum, are of bright yellow colour. Mr. Van de Weyer also showed a vigorous plant of Ansellia africana, with eight flower spikes.

NEW HYBRIDS.

Name.	Parentage.	Exhibitor.
Cattleya Chelsea	Empress Frederick × General Pulteney	Flory & Black.
Cattleya Hermann Sielken	C. G. Rœbling × Dupreana	P. Bauer.
Cymbidium Phyllis	Alexanderi × J. Davis	Sanders.
Cymbidium Tityus	Woodhamsianum × Alexanderi	Armstrong & Brown.
Cypripedium Opal	Moonstone × Sanacderæ	C. Cookson, Esq.
Cypripedium Herald	Mrs. Cary Batten × Lord Wolmer	Mrs Bruce & Miss Wrigley.
Cypripedium Queen Helen	Queen of the Belgians × Helen Walker	” ”
Cypripedium Villius	villosum × villexul	” ”
Dendrobium Diana	Dulce × aureum	Edinburgh Bot. Gdns.
Dendrobium edinense	crassinode × Regium	” ”
Læliocattleya Montrose	C. Enid × Lc. Pizarro	Flory & Black.
Læliocattleya Orebus	Lc. Appam × C. Venus	Charlesworth.
Odontioda Leonie	Oda. Hypatia × Odm. percultum	”
Odontioda Red Admiral	C. Noezliana × O. Georgius Rex	”
Odontioda St. Aubyn	Oda. Charlesworthii × Oda. Cooksoniæ	”
Odontioda Stone Age	Odm. Harryanum × Oda. rosefieldiensis	Geo. W. Bird, Esq.
Odontoglossum Clodagh	Lakiniæ × Nathaniel	R. Gerrish, Esq.
Odontoglossum Cranmore	St. James × Mars	Dr. Craven Moore.
Odontoglossum Sheila Stephenson	crispum × Felicity	S. O. Stephenson, Esq.
Odontoglossum Toreador	crispum × Laurentia	Charlesworth.
Odontoglossum Yuylgroganiæ	Vuylstekeæ × Groganiæ	McBean.
Sophrolæliocattleya St. Gothard	S. grandiflora × Lc. St. Gothard	J. J. Bolton, Esq.

Lycaste candida.—This is one of the dwarfest species in the genus. It was discovered by Warscewicz in Central America, in 1849-50, and introduced by him shortly afterwards.

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Cymbidium Lowianum.—This well-known and elegant species was sent to Messrs. Low & Co. from Burmah, in 1877, by Boxall. It flowered for the first time in England in the spring of 1879. The sepals and petals are greenish-yellow with reddish veins, the labellum is light buff-yellow, the front lobe bearing a V-shaped blotch of dark red-crimson which has been perpetuated in the majority of its hybrids.

◆

Maxillaria venusta.—One of the discoveries of Linden, who found it in 1842 on the Cordillera of Venezuela, in the province of Merida. It was, however, not introduced until 1851, when it was re-discovered by Schlim on the eastern Cordillera of Colombia. The flowers are 5-6 inches across the lateral sepals, white, the lip more fleshy than the other segments, the upper surface buff-yellow, the lower one cream-white with a few red spots.

◆

Trichopilia laxa.—This has been described as one of the least interesting of the Trichopilia species, in a horticultural sense, on account of the absence of attractive colours in its flowers. It was originally discovered by Hartweg at the same time and in the same locality as Trichopilia fragrans, namely, near Popayan, in southern Colombia, about the year 1841.

THE CHELSEA SHOW.

May 19th, 20th, 21st, 22nd, 23rd.

ONCE again the excitement of Chelsea Show has stimulated all Orchidophiles. They left the Show with a resolve to take a deeper interest in the study of these wonderful flowers, and to improve their collections in more ways than one. Amateurs of a few years standing saw for the first time many a plant that they had only read of in the text books or in the dealers' catalogues, while not a few of our leading connoisseurs returned home with the thought that the work of the hybridists knows no finality.

While it is universally admitted that Orchids are the aristocrats of the floricultural world, considerable skill is required to arrange the extensive groups seen at this vast Show. That our leading amateurs and trade growers are fully accomplished in this respect no one has the slightest doubts, for Challenge Cups and Gold Medals have been awarded again and again to Orchid groups. In fact, the powers that be have found it necessary to resort to Protection in order that the exhibitors of other plants may stand a chance of winning the finest trophy of the Show—The Sherwood Cup. In 1924 this Cup was awarded to a group of Orchids as being the finest exhihit in the whole of the Show, and as fears were entertained that Orchids would again attain this renowned position, the R.H.S. Council decided that the exhibits of Orchids will not be eligible for the Sherwood Cup at Chelsea Show more than once in three years, and as this Cup was awarded to Orchids in 1924, they will, therefore, not be eligible again until 1927. Well, whatever political views our readers may have, they certainly may feel proud of the fact that all other kinds of exhibits had to be protected from the alluring influence of Orchids, the wonderfully constructed and ever-beautiful flowers of which are rightly considered as the aristocracy of the horticultural world.

Members of the Orchid Committee present:—Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), C. H. Curtis, C. J. Lucas, J. Cypher, Jas. O'Brien, S. W. Flory, W. H. Hatcher, F. K. Sander, E. R. Ashton, Stuart Low, H. H. Smith, T. Armstrong, J. E. Shill, A. Dye, R. Brooman White, H. G. Alexander, G. F. Moore, A. McBean, C. Cookson, and John Cowan.

First-class Certificates.

Læliocattleya Hassallii alba, Cowan's var. (Lc. Britannia × C. Warscewiczii). One of the finest forms of this elegant hybrid, the spike bore two large flowers, the sepals and petals of thick texture, creamy-white, the roundly formed labellum bright purple with a narrow white margin, the throat bright yellow. Shown by Messrs. Cowan & Co.

Odontioda Hiawatha var. Royalty (Oda. Charlesworthii × Oda. Coronation). This beautiful hybrid bore an erect spike of eleven flowers of rose tint, the sepals and petals heavily blotched with brilliant rose-scarlet, thus making a most impressive object. Staged by Messrs. Charlesworth & Co.

AWARDS OF MERIT.

Cattleya Chelsea (C. Empress Frederick × C. General Pulteney). A grand flower and one of the best Cattleyas in the show. The two large flowers had the petals broadly developed and of erect habit, deep mauve, the immense labellum crimson purple, crisped at the margin, and with gold veining at the apex of the throat. Shown by Messrs. Flory & Black.

Cymbidium virgo var. Guinea (Pauwelsii × Woodhamsianum). A very showy Cymbidium, the strong plant bore an extended spike of 18 large flowers of greenish gold colour, the labellum having a crimson band on the apex of the front lobe and spotting of similar colour on each of the two lateral lobes. Staged by Messrs. Stuart Low & Co.

Odontoglossum crispum var. Priscilla. One of the finest forms of this popular species. The spike had been disbudded to four flowers, which were very large, the immense petals almost meeting in front of the dorsal sepal. Sepals slightly rose tinted, the labellum having a few reddish spots. This plant also carried a seed-pod. Exhibited by Robert Paterson, Esq., Stamperland, Cathcart, Glasgow.

Odontioda Orestes var. majestica (Oda. Coronation × Odm. percultum). The tall spike of this hybrid carried seven large flowers with roundly formed segments of a pretty rose tint and slightly marked with reddish purple. Shown by Messrs. Cowan & Co.

Miltonia Princess Mary var. majalis (Bleuana × Hyeana). The spike had four large flowers of typical vexillaria habit. Sepals flushed with crimson at the base, the petals to a greater extent and of slightly deeper colour. Labellum stained with violet-rose, and with a ray-like mask at the base. Shown by Messrs. Charlesworth & Co.

Cymbidium Victrix (Venus × Alexanderi). This attractive hybrid carried two spikes of large buff-yellow flowers, the labellum having a brownish zone around the apex of the front lobe. Staged by Messrs. Sanders.

CULTURAL COMMENDATION.

Odontioda Cora var. Princess (Oda. Coronation × Odm. eximium). A fine result in which the spike carried 19 large flowers of rose tint, the central area of each segment spotted with light red. Shown by Messrs. Charlesworth & Co.

Odontioda West Point Beauty (Oda. Bradshawiæ × Odm. eximium). A remarkable result, the infloresence consisted of no less than 76 well developed flowers of purplish-rose colour. Exhibited by Messrs. Charlesworth & Co.

GROUPS.

Messrs. Charlesworth & Co. were awarded a Gold Medal and the Council's Congratulations for a superb exhibit in which the central raised portion was entirely composed of Odontoglossum crispum xanthotes and white varieties of O. eximium, the effect being charming. On each side was a batch of the red and scarlet Odontiodas, and of these Oda. Mavis and Oda. Dolosa stood out conspicuously. Miltonia Charlesworthii, distinguished by the large maroon-coloured blotch on the labellum, and M. Wm. Pitt, of deep purplish-crimson, were in prominent positions, while in other places could be seen several distinct Odontiodas and various novelties of a promising character. Among the numerous Odontoglossums, mention may be made of O. Rêve d'Or, with golden-yellow blotching, and several fine varieties of O. crispum of The Premier type. Læliocattleyas were best represented by Fascinator, and Brassavola hybrids by Blc. Jupiter, with an immense flower of rose colour. Cymbidium Pauwelsii carried a spike of 26 flowers, and C. Ceres was represented by an immense plant with three tall spikes of carmine-tinted flowers. Along the back rows were many attractive Odontoglossums and Oncidiums, while the front contained a varied selection of Masdevallias, Bulbophyllums, Cœlogynes, and other rarities. Dendrobiums were seen in several well-flowered plants of D. atroviolaceum, Thwaitesiæ, and Victoria Regina, the latter with flowers of slate-blue colour.

Albert C. Burrage, Esq., Beverley Farms, Mass., U.S.A. (gr. Mr. Pocock) was awarded a Silver-gilt Lindley Medal for a most interesting and picturesque exhibit of hardy New England Orchids of the Cypripedium genus. The plants were sent over in cold storage during the early part of the year and slightly forced into flower for this event. Along the back were arranged ten pine trees, which had also been sent over from the U.S.A., and in front of them were placed numerous batches of Cypripedium acaule, just on a hundred flowers being visible. In the centre line a large number of the yellow flowering Cypripediums, commonly known in America as C. pubescens and parviflorum, made a most attractive sight, some two hundred flowers of which were fully open. Along the front were arranged many vigorous specimens of C. reginæ, with its large flowers having whitish sepals and petals, the labellum rose-coloured. In the actual centre of the group was a grand mass of this species with over 50 growths. In between the large plants were arranged numerous examples of C. arietinum, with slender growths 6-9 inches high, each bearing a single flower, and making a charming effect when seen in quantity of over a hundred open flowers. The group was bordered with a narrow stream of water, on each side of which Osmunda regalis gave a finishing touch. The total weight of this American group was about five tons, from which some idea will be obtained of the immense task undertaken by this enthusiastic amateur, who is President of the American Orchid Society. It remains to be recorded that Mr. Burrage has most generously presented the whole of this exhibit for distribution between Sir Jeremiah Colman, Sir George Holford, and the Royal Botanic Gardens, Kew. Credit is due to E. M. Preston, Esq., of Hayes, Kent, for kindly allowing this exhibit to be prepared in his garden, and to Mr. F. C. Wood for his cultural ability.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. Collier), was awarded a Gold Medal for a highly interesting exhibit containing upwards of 80 distinct species, and a larger number of garden-raised hybrids. A noteworthy feature was the varied selection of Lycaste Skinneri, the finest varieties being seen in hellemensis, Robin, alba, and Mrs. Hamilton-Smith. Cattleya species were seen in fine plants of C. Skinneri alba and the attractive citrina, while Dendrobiums were well represented in D. illustre, Gatton Sunray, and the reddish-flowering arachnites. Great rarities were staged in Lycaste locusta, with large dark greenish flowers, in Polystachya lutescens, with yellow flowers, and in the curious Gongora atropurpurea, with its flowers of "Punch and Judy" formation. Touches of red were visible in finely formed Odontiodas, such as Oda. Madeline and Oda. Lady Colman, while Læliocattleyas stood out well in Lc. Isabel Sander and Fascinator. The back part was composed of many well-grown examples of the popular Cymbidiums, while in front were such interesting things as Bulbophyllum tremulans, Cypripedium Chamberlainianum, Eria ornata, the latter with three grand spikes that were rendered conspicuous by the numerous orange-coloured bracts. Aërides crispum, Vanda cœrulescens and Maxillaria Sanderiana were in fine form, while Oncidium Papilio came in for much notice, as also did the pretty Epidendrum Endresii and Bifrenaria pubigera.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded the Orchid Trade Challenge Cup, thus winning it for the second time, as well as a R.H.S. Silver Cup. The central objects of interest were two superb plants of Bulbophyllum macrobulbon, which flower twice each year, and on this occasion bore nine and eight flowers respectively. Other uncommon plants were seen in Lissochilus streptopetalus and a large plant of Ansellia africana. Cattleya Suavior var. Glory, with purple-flushed petals, C. Mendelii, and C. Octave Doin all came in for appreciation. Miltonia Wm. Pitt var. King's Crown was the best of this genus, other representatives being fine forms of Bleuana and vexillaria. Cymbidium Lowgrinum stood out well, as also did Maxillaria Sanderiana, while two attractive Cypripediums were seen in Enchantress and glaucophyllum.

Among the numerous Odontoglossums of fine quality, reference may be made to Antinous, bright yellow, and O. Maillardianum, of reddish-brown.

Messrs. Stuart Low and Co. received a Silver Cup for an extensive exhibit containing vigorous examples of Ansellia africana and Arpophyllum giganteum, as well as a large number of handsome Cymbidiums, the latter including Lowianum concolor with three many-flowered spikes. Among the numerous species were Cattleya intermedia carnea, Odontoglossum crispum album, Oncidium superbiens, and well-grown examples of Cattleya Mossiæ var. Arnoldiana, a favourite in the old Temple Show days. Cattleya hybrids of quality were staged in C. Mary Sander, pure-white, Empress Frederick, and Cowaniæ, the latter with four large white flowers of excellent formation. Several many-flowered plants of Renanthera Imschootiana imparted reddish colour, and at each end was a mass of Læliocattleya G. S. Ball, with upwards of 50 orange-tinted flowers. Dendrobiums were strongly represented in this exhibit, while interesting hybrids were staged in Odontocidium Edwardatum, Oncidium McBeanianum, and an extensive series of Brassavola crosses.

Messrs. Cowan & Co. were awarded a Silver Cup for an effective group in which the background was composed of Oncidium Marshallianum with bright golden-yellow flowers, arranged with various Odontiodas, and of which Oda. Grenadier had a branched spike of reddish flowers, and Oda. Murillo a similarly formed spike of scarlet. Another feature was the series of Cymbidiums, specially noteworthy being Beryl, with a boldly marked labellum, and Pauwelsii, with extra large flowers. Odontoglossum crispum xanthotes, O. Menier with chocolate coloured markings came in for due appreciation, while O. Plinius appeared well worthy of being certificated. An attractive hybrid was staged in Odontioda Juno var. Regina, and Cypripediums were strongly represented by Maudiæ, Emerald, Curtisii Sanderæ and callosum Sanderæ. Brassocattleyas well sustained the reputation of this firm.

Messrs. Cypher & Sons received a Silver-gilt Flora Medal for a varied selection of the best species and hybrids. Among the former were several distinct varieties of Lælia purpurata, Lycaste Skinneri and well-flowered plants of Dendrobium formosum. Quite an interesting feature was the splendid assortment of Masdevallias, many bearing several dozens of flowers. The centre of this group was composed of Brassocattleya Digbyano-Mendelii and Blc. Veitchii, both bearing several immense flowers. A very dark form of Cypripedium Lawrenceanum, several examples of C. Maudiæ, and a grand example of C. macrochilum giganteum were justly appreciated. Epidendrum gattonense, with its long-lasting flower spikes stood at the back, while in more prominent positions were Lælia cinnabrosa, a fine specimen of

Læliocattleya Fascinator and the pretty Odontoglossum Eva with golden-coloured flowers. Many fine forms of Odontoglossums and a considerable number of the best popular hybrids were included.

Messrs. Mansell & Hatcher received a Silver-gilt Flora Medal for an exhibit containing a considerable number of Læliocattleya Fascinator, and a smaller number of Lc. Tuecra and Lc. G. S. Ball, all of which were effectively staged. Species were represented by Cattleya Schrœderæ and Lælia purpurata, as well as by Miltonia Phalænopsis and several distinct varieties of M. vexillaria. Cypripedium Lawrenceanum Hyeanum, of excellent shape, and Cyp. Godefroyæ were in the front row, while further back was a varied selection of Odontiodas and pretty Odontoglossum hybrids. Among the Brassocattleyas was a fine form of Digbyano-Mendelii, with immense flowers, while close by was the minute Masdevallia O'Brieniana.

Messrs. Flory & Black were awarded a Silver-gilt Banksian Medal for a praiseworthy exhibit of numerous Cattleyas, the central plant obtaining a well-deserved Award of Merit. Among the coloured forms were large flowering varieties of Tityus, Heatherwood and Empress Frederick var. Vesuvius, while the albinos included Irene and Magali Sander, pure-white with yellow in the throat, and The Bride, in which the yellow is entirely absent. An interesting plant was staged in Claes' variety of Cattleya Mendelii, rendered distinct by the violet-purple colour on the labellum. Some pretty varieties of Miltonia vexillaria were also staged.

Mr. Harry Dixon obtained a Silver Flora Medal for an exhibit comprising most of the popular Orchids, such as Cypripedium Maudiæ, various Odontiodas. pleasing Dendrobiums and attractive Odontoglossums. Part of the back row was occupied by two large specimens of Ansellia africana, with somewhat darker flowers than usually seen, while the central area was made up with Læliocattleya luminosa and Lc. Martinettii. Mention must also be made of a fine Cattleya Schroederæ and also of Brassocattleya Apollo, the flowers being large and well coloured. Cymbidium Lowianum concolor and C. Lowianum Fir Grange variety, both meritorious, stood alongside a selection of hybrids.

Messrs. Sanders received a Silver Flora Medal for a choice selection of Odontiodas, including Grenadier of rich-red colour. Also some finely formed Brassocattleyas and the elegant Bifrenaria pubigera. Cymbidiums were well seen in Devonianum, with pendulous spikes, Victrix, of citron-yellow colour, and in Erica, while Miltonias were best represented by Butterfly, with a blotched labellum, Northlight, rose, with a reddish mask, and by Ture Mellstrom, with deep rose sepals and petals. Phaius Cooksoniæ and various Cypripediums, including insigne Sanderæ, were in excellent condition.

MANCHESTER ORCHID SOCIETY.

May 1st, 1925.

MEMBERS of the Committee present:—R. Ashworth, Esq. (in the Chair), Messrs. A. Burns, A. Coningsby, J. Cypher, J. Evans, G. Giles, Capt. W. Horridge, A. Keeling, D. Losh Thorpe, J. Lupton, M. McCartney, E. W. Thompson, and H. Arthur (Secretary).

First-class Certificates.

Brassocattleya Apollo var. Earl of Chester, a large flower, over eight inches across, of pale pink colour, the labellum having a crimson front lobe and a yellow throat; from A. Hanmer, Esq.

Odontioda Breworthii (Brewii × Charlesworthii), a large and well-formed flower of deep mahogany colour, the labellum flatly displayed; from A. Hanmer, Esq.

Brassocattleya Jupiter var. Empress, flower well above the average size, of even coloration, the labellum fringed; from Mrs. Gratrix.

Cattleya Ashlands (Dupreana × Tityus), a finely-formed flower, having the large labellum fringed and of deep crimson colour with the throat yellow; from R. Ashworth, Esq.

Sophrolæliocattleya Meuse var. The King, one of the finest forms seen, of beautiful colour, a Silver Medal was also awarded; from Mrs. Gratrix.

Odontoglossum Amabilicity (amabile × Felicity), an elegant flower four inches across, white, with pale lilac blotches and spots; from P. Smith, Esq.

Awards of Merit.

Brassocattleya Jupiter var. Ashworthiæ, Brassocattleya Apollo, and Odontioda ashlandensis; from R. Ashworth, Esq.

Brassolæliocattleya Rumania, Edgemoor var., and Odontoglossum Diadem; from A. Hanmer, Esq.

Odontoglossum crispum var. Coronet; from Mrs. Gratrix.

Odontoglossum crispum var. White Ensign; from S. Gratrix, Esq.

Odontioda valeria, Bolholt var.; from Capt. Wm. Horridge.

Brassocattleya Cliftonii, Beardwood var.; from Col. Sir J. Rutherford, Bart.

Cymbidium Alexanderi var. Pink Pearl; from J. McCartney, Esq.

Dendrobium Griffithianum superbum; from Messrs. Keeling & Sons.

Cultural Certificates were granted to Mr. A. Burns, for Miltonia vexillaria var. Oswaldii, and to Mr. G. Giles, for Odontoglossum crispum xanthotes, Edgemoor var.

Messrs. Charlesworth & Co. exhibited various Odontoglossums and Odontiodas.

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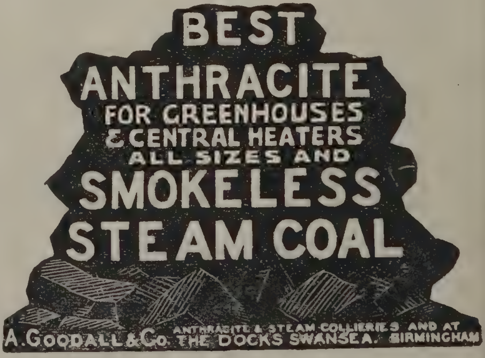

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THE ORCHID REVIEW.

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NOTES.

CYPRIPEDIUM WRIGLEYANUM.—At the meeting of the Manchester and North of England Orchid Society on April 17th, Mrs Bruce and Miss Wrigley exhibited Cypripedium Wrigleyanum (Curtisii × Gowerianum), which received an Award of Merit. In our report of the meeting, this hybrid was duly recorded (p. 160), and included in the list of New Hybrids (p. 153). The above mentioned Society has since announced that Cypripedium Wrigleyanum has been re-named and recorded as Cypripedium O. O. Wrigley, although no reasons for the alteration accompany the notification. According to the Rules of Horticultural Nomenclature, "No one has the right to alter a name or combination of names without weighty reasons founded upon a very thorough knowledge of the facts or upon the necessity of abandoning a nomenclature contrary to the rules."

DISBUDDED FLOWER-SPIKES.—The question of disbudded flower-spikes again arose at the Chelsea Show, when a plant of Odontoglossum crispum having the flower-spike restricted to four flowers came before the Orchid Committee. According to the R.H.S. Rules "Awards will not be given to any Orchids of which the natural size and character of the flowers have, in the opinion of the Committee, been in any way changed or 'improved' through the removal of a bud or buds or parts of the spike." The plant in question consisted of four bulbs of average size, and a small seed-pod, apparently immature, was borne by the bulb made in 1924. This Rule does not actually prohibit disbudding, but leaves the matter to the judgment of the Committee as to whether the flowers have been in any way changed or improved by the removal of buds. On this point the Committee was not unanimous, and an Award of Merit was granted instead of the higher recognition of a First-class Certificate which would doubtless have been given had the plant borne an unrestricted spike of equally fine flowers.

VANDA PARVIFLORA.—A pretty little Orchid which attracted some attention in Sir Jeremiah Colman's group at Chelsea Show appears to be Vanda parviflora originally described by Lindley in 1844 (*Bot. Reg.* xxx, Misc. 45), and subsequently as Aërides Wightianum (*Wall. Catt.* 7320). The species varies from 6-12 inches in height, the inflorescence somewhat erect, bearing several small flowers, each about half-an-inch in diameter, the sepals and petals pale buff-yellow, the apical lobe of the lip bluish-purple. It is widely distributed in the Western Himalayan area, Nepal, Assam, Burma, Ceylon, and from the Concan to Travancore. E. S. Berkeley has stated that he found this plant not only in the steamy valleys at the bottom of the Materan Hill, Bombay, but also in the valleys below Chuckrata, where snow often falls in the winter. From this he inferred that the species must possess an adaptability to various conditions. The plant in Sir Jeremiah Colman's collection was, before flowering, thought to be V. cœrulescens, which also grows in Burma ; a natural hybrid between this species and V. parviflora has been recorded as Vanda confusa (*Orch. Rev.* vol. x, p. 196).

New Species of Masdevallia and Allied Genera.—In the *Kew Bulletin*, 1925, No. 3., Dr. F. Krænzlin states that he received from Kew a very valuable collection of Masdevallias for examination and comparison with the older types of Reichenbach which are now in Vienna. The species were formerly examined and partly determined by the late Mr. R. A. Rolfe, with whom Dr. Krænzlin agrees in the majority of determinations. The two most complete collections of Lehmann's plants on the continent are those in the Herbaria of Vienna and Geneva. Both of these have been examined by Dr. Krænzlin, those from Geneva having been forwarded by the courtesy of Prof. Chodat. "As regards the sections of Masdevallias," states Dr. Krænzlin, "I have abstained deliberately from using the old names. Reichenbach, the author of them, never condescended to define his so-called 'sections' and hence all the names occurring here and there in his papers are *nomina nuda* in the fullest meaning of the term. Not a few of them are wrong, and some are by no means appropriate, hence one cannot be expected to use them provided better ones can be supplied." During the present year, Dr. Krænzlin intends publishing a complete monograph of the genus Masdevallia and the allied genera. In the Preface of this work he hopes to elaborate his points as to the reasons for a new sub-division of the main genus.

Miltonia Warscewiczii.—This species was originally discovered by the German botanist, Poeppig, who found it in 1830 on the Peruvian Andes. It was next found by the Polish traveller and collector, Warscewicz, who brought to Europe dried specimens from which the plant was first described, and the species was accordingly dedicated to him. It was introduced to English gardens by Linden in 1868.

THE FERTILISATION OF OPHRYS SPECULUM, O. LUTEA, AND O. FUSCA.

LORD ROTHSCHILD (*Orc. Rev.*, April, p. 99) criticises the article on the above subject in the March number, claiming that the bees observed to visit the three species of *Ophrys* concerned would die after what he calls the "false coition," and could not therefore proceed to other flowers, so that fertilisation would not result. If this supposition could be proved, it would cut at the root of the matter, and the deductions made from the observations of the last twenty years would be falsified.

I therefore asked Monsieur Lucien Berland, the leading expert on *Hymenoptera* at the Paris Museum of Natural History, how far Lord Rothschild's hypothesis could be supported from an entomological point of view. He replied as follows:—"The males of Andrena do not die as a result of copulation. Monsieur Benoist, a most competent hymenopterist, has assured me that they are often seen visiting flowers after mating."

This is entirely in agreement with M. Pouyanne's observations, who repeatedly saw bees which had visited *O. speculum* and *O. lutea*, and in one case *O. fusca*, carrying two or three pairs of pollinia, incontrovertible proof that pollinia had actually been conveyed to the flowers from which the second and third pairs of pollinia had been withdrawn. He further now informs me that he has often seen both *Dielis* and *Andrena* visit several flowers in succession without appearing to suffer from it the least in the world.

With reference to Lord Rothschild's suggestion that these species of *Ophrys* may be fertilised by female *Hymenoptera* laying their eggs in the ovary:—

(1) The only visitors to these flowers seen during twenty years' observations were exclusively males.

(2) M. Berland wrote on this point:—It cannot be admitted that any honey-bearing *Hymenoptera* lay their eggs in the ovaries of flowers. This could only be true of certain phytophagous *Hymenoptera* (*Chalcidides*, *Proctotrypides*, and possibly some *Tenthredes*), and these only in very rare cases. But the greater part of the *Apidæ*, and especially the *Andrena*, make their nests and lay their eggs in the ground.

(3) All the visitors so far observed were *Apidæ*. M. J. GODFERY.

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BRASSIA MACULATA.—Not only is this the species upon which the genus was founded, but it was the first Brassia cultivated in British Gardens. It was introduced from Jamaica by Sir Joseph Banks, who presented plants to the Royal Gardens at Kew, where one of them flowered in April, 1814.

HARDY CYPRIPEDIUMS AT CHELSEA SHOW.

THE superb exhibit of hardy Cypripediums from New England arranged by Albert C. Burrage, Esq., at the Chelsea Show proved a most attractive event, and the more so for it was almost entirely unexpected, the only individuals acquainted with the project being one or two officials of the Society and the few people concerned in the handling of the plants. As is well known to our readers, Mr. Burrage is the worthy President of the American Orchid Society, and since the time when he first gave thoughts to this matter all details have constantly received his attention.

It is a well recognised fact that these hardy Cypripediums are nothing like so plentiful as they were, and on that account the task of obtaining so many remarkable specimens as were seen at Chelsea was indeed a heavy one. In the opinion of several authorities, the specimen of Cypripedium reginæ which occupied a central position in the group was the finest ever exhibited in England. After the plants had been collected it was necessary to place them, surrounded with native soil, in shallow boxes of sufficient strength to withstand the long journey to England. This part of the exhibit, weighing about two tons, left New York on February 28th, and came over in cold storage in the steamer "Minnetonka." In order to give a realistic setting to this exhibit, Mr. Burrage despatched by a later steamer ten Pine trees, each about eight feet in height, and with their roots attached, also a similar number of Hemlock trees, slightly smaller, and a quantity of Osmunda fern.

During the period of transit, arrangements were being made in England for the care of the plants on arrival, and for bringing them into the flowering stage. Through the kindness of E. M. Preston, Esq., of The Warren, Hayes, Kent, every facility for this matter was obtained, the actual cultural work being accomplished by his gardener, Mr. C. F. Wood. With the assistance of cultural directions prepared in America, of cable messages concerning the plants' progress of growth in England, and especially to the actual work accomplished by Mr. Wood, all matters came to a successful conclusion, and the award of a Silver-gilt Lindley Medal in recognition of the scientific and educational value of this exhibit was very appropriate.

A narrow stream of water bordered with Osmunda fern was effectively arranged in the front of this exhibit, and just behind were many superb masses of Cypripedium reginæ, probably better known under the name C. spectabile. This is by no means an easy species to force, for if the temperature is maintained at over 55 degrees the growths generally fail to produce flowers. A number of Cypripedium arietinum plants were prettily arranged in between the much larger C. reginæ, and as over a hundred flowers were fully open the sight was indeed a fascinating one. The specific name arietinum is in allusion to the conical labellum formed like a ram's head. Along the central zone were arranged the many vigorous masses of Cypripedium parviflorum and C. pubescens, all of which bore quantities of yellow flowers. While C. parviflorum was mainly distinguished by its smaller and darker flowers, C. pubescens had larger flowers that stood out prominently. The Pine trees were placed along the back, and in close proximity were arranged the numerous plants of Cypripedium acaule, bearing a total number of just on a hundred flowers. On each side of this exhibit five Hemlock trees were arranged, the whole exhibit making a most impressive sight. At the conclusion of the judging it was announced that Mr. Burrage did not require this exhibit to be returned to America, but that it was to be distributed as an entirely free gift to Sir Jeremiah Colman, Bart., Lieut.-Col. Sir George Holford, K.C.V.O., and the Royal Botanic Gardens, Kew. The recipients were most agreeably surprised, and expressed their warmest appreciation of Mr. Burrage's generosity.

PHILIPPINE ORCHIDS.

THE enumeration of the Philippine Apostasiaceæ and Orchidaceæ recently prepared by Prof. Oakes Ames, who was materially assisted in the bibliographical research connected therewith by Mr. F. Tracy Hubbard, has been published in the *Enumeration of Philippine Flowering Plants*, pp. 252-463, Bureau of Science Publication No. 18, Manila, 1925.

Apostasiaceæ is represented in the Philippines by the two genera Neuwiedia and Apostasia. They are generally considered to denote ancestral Orchids—plants which have retained much of their simple monocotyledonous structure. N. veratrifolia and A. Wallichii are the only two species here concerned.

The enumeration of the Orchidaceæ commences with the genus Cordula, which comprises several plants universally known under the generic name Cypripedium. The genus Cordula was established by Rafinesque, in 1836, and was thus already in existence for the Tropical Asiatic Cypripediums when Paphiopedilum was created. The species here enumerated are Cordula Argus (Cyp. Argus), C. barbata (Cyp. barbatum), C. ciliolaris, C. Haynaldiana, and C. philippinensis.

Cœlogyne asperata, C. sparsa, and C. Swaniana are included among the nineteen representatives of the genus, while Dendrochilum filiforme, sometimes seen in gardens under the name Platyclinis filiformis, D. Cobbianum, and D. glumaceum are also well-known. Pholidota imbricata and P. ventricosa may also be mentioned as being of horticultural value.

Under Polystachya luteola is placed P. minuta, referred to in the *Orchid Review*, vol. xxx., p. 324. Prof. Oakes Ames states that the oldest name for the species is Epidendrum minutum, Aubl., and although the combination Polystachya minuta has been made, it seems inadvisable to use either on account of the already existing Polystachya minuta, A. Rich. & Gal. He also says that the last named is presumably not a Polystachya, but its status is at present (and probably will remain) unsettled.

Phajus flavus and Spathoglottis plicata are two Philippine plants occasionally seen in gardens, while the genus Dendrobium includes such fine species as D. Anosmum, perhaps better known as D. superbum, D. Dearei, D. taurinum, D. Victoriæ Reginæ, and D. Lyonii, the latter sometimes referred to as Sarcopodium Lyonii. Regarding the plant known to horticulturists under the two names, Dendrobium heterocarpum and D. aureum, Prof. Oakes Ames remarks :—" It has seemed advisable to adopt the name D. heterocarpum in place of D. aureum, Lindl., because the first definite union of the species occurs in *Bot. Mag.* 79 (1853), t. 4708 (*cf.* International Rules adopted at Vienna, Sect. 6, Art. 46), and also because it is the earliest name, although a *nomen*, and still further because it has been more commonly accepted by reputable authors."

The genus Bulbophyllum is represented in the Philippines by no less than 109 species, amongst them being B. Dearei and B. Cumingii. Grammatophyllum scriptum, known horticulturally as G. multiflorum, is described as a very variable, common, and widely distributed species in the Philippines. An epiphyte, at sea level to 500 m. altitude. The other representative of this remarkable genus is G. speciosum, the Giant Orchid, and of which an account was given in the *Orchid Review*, vol. xxix., pp. 83 and 98.

Cymbidium atropurpureum and C. Finlaysonianum are the only two species of this genus from the locality in question, while the genus Sarcochilus includes eleven species. Sarcochilus unquiculatus is given as a synonym of S. pallidus.

The genus Phalænopsis is of considerable importance, and includes such popular plants as P. Aphrodite, with the several varieties, P. leucorrhoda, a supposed natural hybrid, P. Lindenii, P. Lueddemanniana, and its several varieties, P. Mariæ and P. Schilleriana, the latter being one of the most highly-prized of the Philippine Orchids. Although P. amabilis does not occur in the Philippines, it has been deemed advisable in this publication to cite a full synonomy and bibliography of it on account of the confusion arising from the inclusion in it, by Lindley and subsequently by others, of Philippine material.

Aërides Lawrenciæ, A. odoratum, a very variable and widely distributed species, and A. quinquevulnerum are the best known species of this genus inhabiting the Philippines. Rhynchostylis retusa is referred to as a polymorphic species, which has been variously treated either as several distinct species or as one species with several varieties and forms. There are many varieties and forms based on extra-Philippine material that are not listed in the synonomy here given, unless as species.

Under the name Vandopsis lissochiloides are included the names under which this species is also known, two of them being Vanda Batemanii and Stauropsis lissochiloides. Renanthera has two species, viz., R. monachica and R. Storiei. Vanda lamellata, V. luzonica, and V. Sanderiana are all well-known plants, the latter especially so. Dr. Schlechter's separation of Vanda Sanderiana as the type plant of the new genus Euanthe is not adopted in the present enumeration.

Lists of excluded or synonymous species follow the respective genera, and an index completes the work.

A RÉSUMÉ OF THE NON-SYMBIOTIC GERMINATION OF ORCHID SEED.

By E. Clement.

SINCE about the year 1840, orchid growers and scientists have been engaged in the fascinating problem of the germinating of Orchid seed. Growers for many years attempted to find a method which would produce consistently successful results, and while at times this has been attained (more particularly with Cattleya and allied species), yet with the Odontoglossum genus difficulty and failure have more often happened. True, at times success has been achieved, but a second attempt under similar conditions and methods has failed utterly.

Orchid seed is by nature not robust. Its food content is small and the tiny embryo is extremely susceptible to environmental conditions. Moreover, it may be quickly destroyed by fungi and other injurious organisms. In the early part of the present century Bernard, Burgeff and other scientific investigators came to the conclusion that in order to successfully germinate Orchid seed the presence of a specific fungus was necessary, the function of the latter being presumably to supply the embryo with carbohydrates, mineral matter, water, etc., while the fungus in return extracted from the seed, or host, certain elements beneficial to its welfare. This combination for mutual benefit is expressed as symbiosis or mutualism, and the process is a symbiotic one. Reviewing the natural conditions of environment to which the delicate Orchid seed is subjected, and having regard to the insolubility of the substratum on which the seed is deposited, it is quite conceivable that without the aid of some intermediary factor, such as the fungus before mentioned, the tiny embryo, through lack of nourishment, dies, but although the specific endophyte may be present, satisfactory results are not always assured because the fungus may become distinctly parasitic and in the fight for supremacy between fungus and seed the latter succumbs.

On the other hand, the endophyte may through attenuation lack the virtues ascribed to it, and thus cease to be of any service whatever.

Therefore the writer, after careful consideration of the factors involved in the germination of Orchid seeds, conceived the idea that in order to obtain more satisfactory and consistent results a medium containing the necessary food elements in a condition of easy and direct assimilation would be preferable and more desirable than the methods employed by nature or otherwise when success depends a good deal upon the vagaries of the fungus.

With this view in mind, experiments were made on non-symbiotic lines, and while not much difficulty was experienced with seeds of the Cattleya and allied genera, those of the Odontoglossum genus were not so easy, but after repeated trials with media of varying composition and PH. value a substratum was obtained which has proved quite successful, and no failures have resulted; moreover, the seedlings thrive. By the adoption of the asymbiotic process the presence of injurious organisms is guarded against by reason of the sterility of the medium employed, also by the protection from insect pests—afforded by the culture tubes.

Furthermore the arduous process of isolation and culture of the endophyte is entirely avoided. Indeed, once the sterilised seed has been sown, no attention whatever beyond the maintenance of temperature is required until the seedlings are ready for transfer to pots. The proof of the success of this process lies in the fact that to-day some 150,000 healthy seedlings in tubes and pots bear testimony to the achievement. It is not claimed, however, that these seedlings are superior to those raised by the symbiotic process; nevertheless, they are certainly as vigorous, and the percentage of seed germination is quite, if not higher. Plants in pots transferred from tubes now possess leaves measuring from 3 to 8 c/m. in length, according to age.

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THE CLEMENT-ARMSTRONG PROCESS OF SEED RAISING.—In the Scientific Tent of the recent Chelsea Show some interesting results, obtained by the Clement-Armstrong process of seed raising, were seen in 36 culture tubes. The genera Odontoglossum, Miltonia, and Cattleya were each represented by a dozen tubes, every one of which contained a multitude of vigorous seedlings. A suitable number of these seedlings will be grown on to the flowering stage under the care of Messrs. Armstrong & Brown at Tunbridge Wells.

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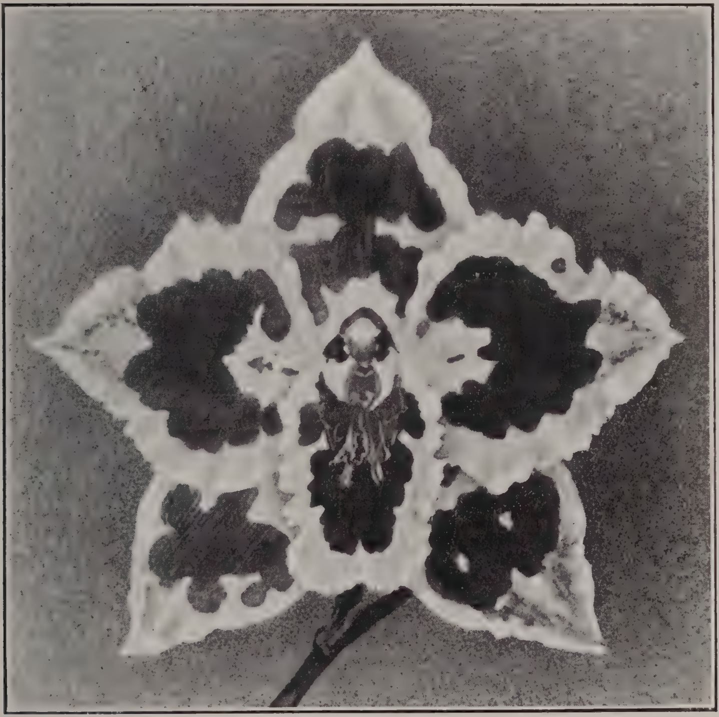
EPIDENDRUM DELLENSE.—This hybrid was raised in the collection of Baron Schröder, and results from the crossing of E. xanthinum with E. radicans. It first flowered in 1891.

ODONTOGLOSSUM ARDENTISSIMUM.

VERY few garden-raised hybrid are better known than Odontoglossum ardentissimum (crispum × Pescatorei). Its first appearance was at the Temple Show of 1902, when exhibited by M. Chas. Vuylsteke. The coloured blotches on the segments are derived from a blotched form of O. crispum, while the influence of O. Pescatorei is best seen in the generally branched habit of the spike, and the pleasing violet-rose tinge which is oftentimes visible on the back of the flower. Many of the seedlings do not possess more than a few spots and markings, and on that account are reasonably low in price, but any varieties of distinctive character always meet with appreciative buyers. Richly coloured blotching of a bright nature is one of the chief points looked for, while the surrounding area should be either pure-white or deep-rose. Broadly formed segments are also essential. O. ardentissimum is one of the easiest members of the genus to cultivate, and its flowers are freely produced during the spring time. Its attractive qualities have brought it into favour with the hybridists and many secondary and further crossings have been effected. It has also produced several beautiful results when mated with Cochlioda species and hybrids.



ODONTOGLOSSUM ARDENTISSIMUM VAR. VIOLETTE.

AUCTION SALE CATALOGUES.

AS time goes on, many of the auction sale catalogues increase in interest, and some of the descriptions of the various Orchids make quaint reading to-day. Many of these catalogues are preserved in the Editor's records of the past, and the following extracts are worthy of reproduction.

On October 20 and 21, 1881, Mr. J. C. Stevens disposed by auction "The finest Importation which ever reached Europe of Madagascar Orchids, collected by the Brothers the late Mr. Henry and Mr. Leon Humblot." Angræcum sesquipedale is described in the words of Prof. Reichenbach:—"The demand for this grand thing has never fully been covered; it is glorious in the foliage, glorious in its ivory flowers, surpassing in the length of its spur any plant known in the world, and flowering from Christmas till Easter. It is well known that there are several varieties of it. Introduced native plants are a fine object for speculation, since they give very soon strong breaks from their inferior leaves, so that they repay very soon the price paid for them with 200 or 300 per cent. Mr. Darwin insists on the spur having been hollowed out by a giant moth, which is a very interesting suggestion. By the bye, we may introduce the moth and get even longer spurs."

Angræcum Ellisii is described as "a very lovely Angræcum, and hitherto very rare. We take leave to state here that the Madagascar Orchids were collected at a very great outlay indeed; they were sent per special small coast steamer from Madagascar to Bourbon, and from Marseilles to St. Albans per passenger trains, the heavy expense is however repaid by the extra condition, they travelled a comparatively speaking short time, although, of course, some months elapsed during the journey. They were collected by the brothers Humblot, one of whom, Mr. Henry Humblot, died through fever raging in the interior. Angræcum Ellisii is extremely rare in Madagascar, and twelve months collecting gave the number of plants offered to-day." (About 200). The description includes Reichenbach's statement that "This fine Orchid has an ivory-white, neatly spurred spike, and has always been the subject of grief and sorrow of the majority of ardent collectors, since they could not have it. A short time ago you could number the plants grown in the United Kingdom on one hand's fingers."

Grammatophyllum Ellisii comprised ninety plants, the accompanying description again being that of Reichenbach, who remarked:— "A long while, quite a rarissima avis when our traveller, M. Humblot, introduced two years ago an admirable lot of glorious plants, there may be great hope to see various new varieties, since a very fine variety collected by Mr. Humblot flowered with Mr. Day. This matches anything seen before in this species. It is covered with curious eye-like blotches, which make one think of a peacock's tail. Mr. Humblot seems to be peculiarly skilful in gathering this rare plant, that escaped Mons. Du Petit Thouay himself." The reference to Thouay is evidently intended for du Petit Thouars, the author of a book on Madagascan Orchids published in 1822.

On June 5th, 1885, Messrs. Protheroe & Morris held a sale of "An unusually valuable Importation of Orchids." Lælia purpurata was described as having sepals and petals grey, lip black purple, the only new form that collector could find, a grand mass. This description was followed by the statement that "Messrs. Fred. Horsman & Co., in offering these plants, beg the gentlemen purchasing to clearly understand that they are true to name, and that the description is not exaggerated." Very few of the present-day amateurs have seen Oncidium Jonesianum in flower, for it is a rarity and very difficult to cultivate. This sale included 500 plants, which varied in having from five to thirty bulbs. The introductory note gives some cultural hints:—"Respecting the cultivation of this Orchid we must correct, or rather make plain, what Mr. Saint Léger says about the temperature reaching zero, what he really means is 32° Fah. So, the fact really is, that although the temperature descends to that point, it does not go below it. This, taken into consideration with his statement that the Summers are hot and dry, clearly proves that an ordinary greenhouse is really the best house to grow this Orchid in. To use his own words (translated) 'grow this in the same temperature as you grow Lælia purpurata, but, less the humidity.'" Various other Orchids were included in this sale, together with 300 Green Tree Frogs.

On January 26th, 1882, Mr. J. C. Stevens sold the first portion of the choice collection of Orchids formed by F. Yates. Esq., of Higher Feniscowles, Blackburn, the 119 lots realising £661. Of noteworthy importance was Dendrobium Wardianum, with 21 breaks, and which carried over 300 flowers in the previous season, purchased by Mr. R. P. Percival for 18 guineas; D. Ainsworthii, 9 strong leads, bought by Mr. W. Cobb for 20 guineas; D. Falconeri, 2 leads, acquired by Messrs. Veitch for 24 guineas, Cymbidium Parishii, true and very rare, 3 bulbs, 1 lead, bought by Sir Trevor Lawrence for 25 guineas; Dendrochilum filiforme, which produced over 50 spikes when previously in flower, purchased by Mr. R. P. Percival for 15 guineas; and last, but not least, Cypripedium Spicerianum, with 12 growths and breaks, a rare species at that period, for it had only been known about a couple of years, 100 guineas, Messrs. Veitch being the purchasers.

Cypripedium Spicerianum, however, did not long maintain its high value, for just three weeks after the above event, Mr. J. C. Stevens sold by auction no less than 410 plants of this species, by order of Mr. F. Sander. The catalogue of February 16th, 1882, states: A grand importation of this most rare and magnificent Cypripedium. Every plant offered was seen by collector in flower. We are extremely gratified at being able to offer this fine novelty, the price of which hitherto has been enormous. Collector found it after a long and tedious search, having for days to wade through swamps with the water reaching up to his waist; he writes, however, that all his trouble was forgotten when he first beheld the object of his search in full bloom, the sight being grand in the extreme. The plants were growing on the face of perpendicular rocks, these being very moist, with many leaves, leads and growths, roots in perfect growing condition. The whole importation is offered in this sale." The first 37 lots, each of which is described as a superb many-leaved specimen, realised an average of 10 guineas each.

At the same sale, Dendrobium Brymerianum was included. It is described as the rarest Dendrobe, only four pieces were offered, the first of which realised 18 guineas, and the second, a unique specimen with about 150 bulbs, 30 guineas, the purchaser in both cases being Mr. Holbrook Gaskell, to whom Cattleya Gaskelliana was dedicated in the following year.

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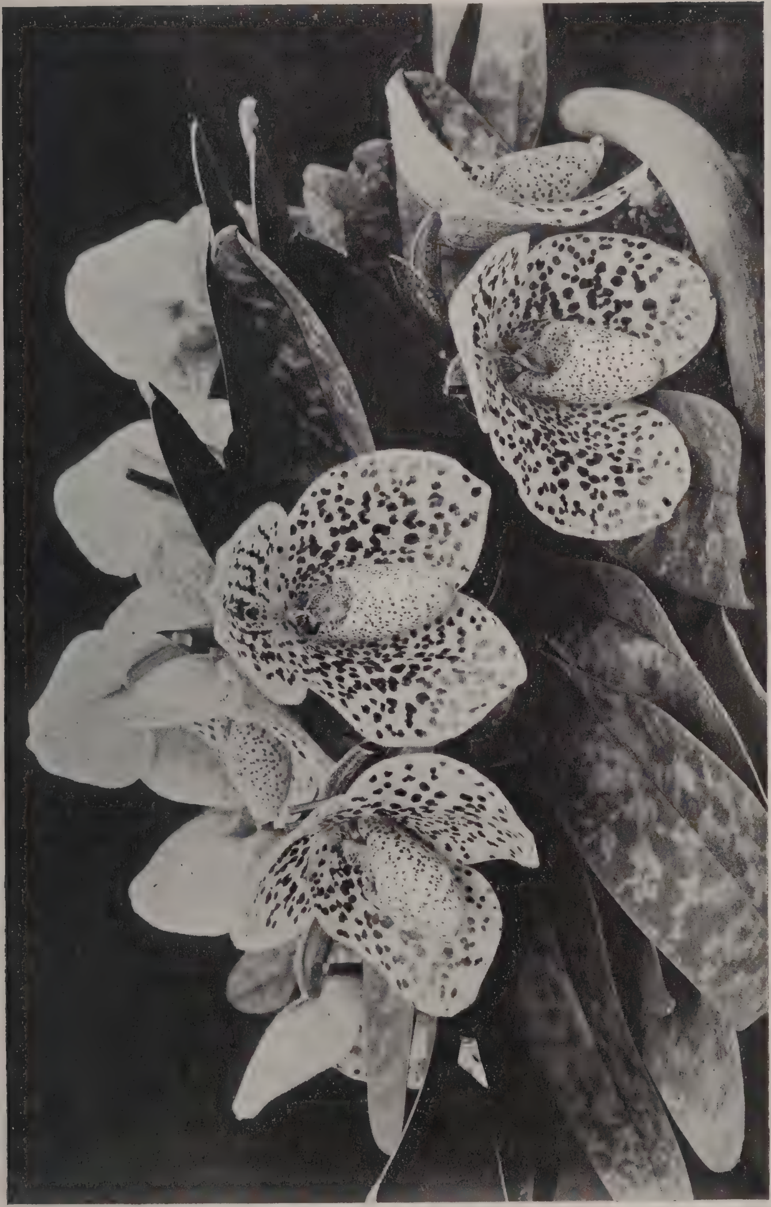
CYPRIPEDIUM BELLATULUM.

THIS elegant Cypripedium, a native of Siam and other localities, was introduced to English gardens by Messrs. Low & Co. in the spring of 1888. Mr. R. Moore, at one time Assistant Superintendent of the Southern Shan States, found C. bellatulum very generally distributed growing on low hills, in loam, among the undergrowth, or on rocks to some extent directly exposed to the sun. It does not grow at such a high level as C. Charlesworthii, but the two evidently occasionally grow together, for in 1894 Messrs. Charlesworth had a small clump of both species with the roots interlocked, precisely as collected. On this account a natural hybrid between bellatulum and Charlesworthii would not be much of a surprise, but no such record seems to exist. A garden-raised hybrid of this parentage has, however, been produced in C. Dora Crawshaw, which was shown at the meeting of the Royal Horticultural Society on November 6th, 1900, by Messrs. Charlesworth, when a First-class Certificate was awarded.

The late Mr. O. O. Wrigley, of Bridge Hall, Bury, had many fine plants of C. bellatulum growing with little else but limestone pieces in their pots, with the smallest quantity of fibrous loam to keep the stones firmly wedged at the surface of the pots. His experience was that the roots of this species delight in running along, and clinging to, limestone, which represents as nearly as possible the native rocks on which the plants grow. When more loam was used, Mr. Wrigley found that the plants did not grow so well.



CYPRIPEDIUM BELLATULUM.

In some collections the cultivation of this species has been a matter of difficulty, and the frequent rotting of the growths has caused disappointment. This appears to be due to too low a temperature, and not to excessive watering. Messrs. J. and A. McBean have obtained excellent results by placing C. bellatulum in a comparatively high temperature, and with an abundant supply of water. In fact, the plants are deluged with water on all fine days, and appear to be under even moister conditions than the general series of Cypripediums. Evidently the chief cultural requirements of C. bellatulum are moist conditions combined with a comparatively high temperature. These remarks apply with equal force to the allied kinds, such as C. Godefroyæ, C. concolor, and C. niveum.

FLOWERS FROM THE STAMPERLAND HOUSE COLLECTION.

AMONG the many plants that have recently flowered in the collection of Robert Paterson, Esq., Stamperland House, Cathcart, Glasgow, we have seen a pretty variety of Brassocattleya Oberon (C. Schrœderæ × Bc. Digbyana-Mossiæ var. Queen Alexandra), of light blush tint, the large labellum having slight purplish markings on the centre part, the margin fringed, and with an orange-yellow area near the column. Of the two parents, Cattleya Schrœderæ is a well-known Colombian species, and Brassocattleya Digbyano-Mossiæ, a garden-raised hybrid between Brassavola Digbyana and Cattleya Mossiæ, the varietal name Queen Alexandra distinguishing a white form which was produced through using a white variety of C. Mossiæ. As this cumbersome parentage is more than can be written on the usual size of a plant-label, one sees it occasionally abbreviated by the omission of the compound word Digbyano-Mossiæ, a practice that cannot be recommended, for any shortening of the parental record can only be legitimately effected by deleting the varietal words Queen Alexandra.

Odontioda Schrœderi has also flowered well in Mr. Paterson's collection. It is the result of crossing Odontioda Bradshawiæ (Cochlioda Nœzliana × Odontoglossum crispum) with Odm. crispum, thus constituting the second crossing of the red-flowering Cochlioda with the popular Odm. crispum. In the early forms of Oda. Bradshawiæ the flowers were rather narrow as regards the formation of the segments, but in Oda. Schrœderi there is a great improvement, and in several examples the good points of broad segments and bright red colour are pleasingly combined.

Odontoglossum Lambeauianum first appeared about twenty years ago, at a time when blotched Odontoglossums commanded high prices. It is the result of crossing O. crispum with O. Rolfeæ (Harryanum × Pescatorei). Varieties of O. Lambeauianum are numerous, and display much variation in colour, those of rosy tints probably originated through the use of typical white crispums in the parentage, while those of reddish-brown colour no doubt arose through the use of blotched crispums, for the blotching ot these imported crispums originated through the influence of other species in the same locality, some of which had the flowers blotched with brown. Mr. Paterson has recently flowered a pretty form of O. Lambeauianum which belongs to the reddish-brown section.

Odontoglossum Crispodusky is one of the several novelties which have recently flowered in the Stamperland House collection. It is the result of crossing O. crispo-Harryanum with O. Dusky Monarch. The former parent was one of the very earliest of garden-raised Odontoglossums, having been recorded by M. Vuylsteke in 1898. The other parent, Dusky Monarch, received an Award of Merit at the Chelsea Show of 1914, when exhibited by Messrs. Charlesworth, since when it has become noteworthy as one of the parents of no less than fifteen subsequent hybrids. Unfortunately, the parentage of O. Dusky Monarch was not recorded, but it had flowers of good shape, of dark claret colour with a few whitish splashes.

CULTURAL NOTES.

SUMMER WEATHER.—We must make the best use of the summer weather, so that our Orchids may grow freely while we have the means at hand to enable them to do so. Do not starve them for want of moisture; at the same time give them plenty of light and sun by removing the blinds as early as all danger of burning or scalding is past, and give enough air to keep the atmosphere fresh and pure. It will now be undesirable to make a wide difference between the temperature of the Cattleya, Lælia, and East Indian Houses. If, however, many of the cooler growing Orchids such as Odontoglossums, Oncidiums, Cypripediums, Masdevallias, &c., are growing with the Cattleyas and Lælias, then of course it is most desirable that a difference in the temperature should be effected, in order to suit the better the last-named species. Many growers are doubtless inconvenienced in this respect, their love for Orchids causing them to get a large number of various species together, which must necessarily grow together in the same compartment owing to want of room.—*H. A. Burberry.*

Cœlogyne pandurata.—The extraordinary colouring of the flowers of this fine Orchid always commands admiration. It is now growing apace, and should be kept well supplied with water. When new roots are being emitted is the season when potting should be done. This is another Orchid that seems to me to require frequent preparation, in fact I know that good results can be obtained that way, and the plants kept in comparatively small pots. The stock is also quickly increased. After the plant has flowered the new growth soon emits collar roots, and that is the best time to propagate. Cut it off with one or two bulbs, work out as many as possible of the roots attached to the severed bulb or bulbs, potting up the leading part and the back part separately. My experience has been that the leading part, when relieved of the back bulbs, grows much stronger, and the back part soon makes a new lead, and in a year or two is quite a good plant. The quarters afforded should be the hottest and shadiest part of the stove, where they can be freely syringed and the compost as given for Cattleyas will be very suitable.—*W. P. Bound.*

Sobralias.—These may be repotted as soon as the flowering season is past. Good turfy loam, mixed with broken crocks and coarse sand suits them admirably. They should be potted firmly. Once strongly established they are of most easy growth, and give but little trouble. They make a large quantity of thick, fleshy roots, and must therefore have pots or pans of a reasonable size to contain them. When repotting it is not advisable to disturb the whole ball of roots more than is really necessary, for if pulled about much a great check is given. Most Sobralias delight in intermediate or Cattleya house temperature, and in a good supply of water when growing strongly, and a moderate supply during winter, as they have no special resting season. Odontoglossum Schlieperianum and the rare O. Williamsii are now flowering, and will afterwards commence to grow, when they also should be repotted. They are very pretty Orchids when strong, but from small, weakly pseudo-bulbs the spikes are spindly, and the flowers insignificant, and therefore should not be allowed to flower until the plants are strong. They grow extremely well in the Belgian leaf soil, and the intermediate house is the best place for them.—*J. Mackay.*

Dendrobium Falconeri.—This is a lovely species when well grown, but is sometimes rather troublesome to keep for long in a healthy state. It greatly prefers an intermediate temperature, shade, and an abundance of atmospheric moisture when growing, but should be rested in a cool temperature throughout the winter months. Either a block, raft, or the stem of a tree fern is preferable to a pan or basket, because its roots, which are largely aerial, and appear from almost every node, have then something to which they can cling and find support. When fixing this to a raft—which I prefer, because the air has more play between the bars, keeping the roots in a more healthy state—a number of plants can be put together at the required distance apart, and a fine specimen thus built up, but no sphagnum or other material should be fixed round the base or roots, otherwise such material immediately round the roots will keep continually soddened by the frequent syringing, while the rest of the raft is dry ; a condition of things which must, if possible, be avoided in the cultivation of all block or raft Orchids.—*H. A. Burberry.*

Lælia anceps.—Plants of this species should be syringed morning and afternoon now, and otherwise supplied with abundance of water, and, where possible, the shading should be taken off early in the afternoon, and a high temperature induced by closing the ventilators for a few hours, always opening the bottom ones again at night, so that all superfluous moisture may be dispelled. L. autumnalis, albida, furfuracea, and Gouldiana require the same treatment, with the exception that they should not be syringed sufficiently heavily to allow the water to lodge in the young growths, for if it does, and a change of weather from fine to dull takes place, the growths are very apt to damp off.—*J. Mackay.*

THUNIAS.—By this time Thunias will have finished blooming, and should be removed to a sunny, airy house, so that any that have not bloomed may still grow, and at the same time get well ripened and hard, for Thunias will not bloom successfully next year without it. When well bloomed they are very graceful. Barkerias are also only worth seeing in bloom when grown well, and this cannot be done if shaded like most other Orchids. They like to be suspended in full sunshine, and copiously syringed when growing, and they are therefore good companions for the above.—*H. A. Burberry.*

ODONTOGLOSSUM KRAMERI.—When well flowered this is very pretty, though unfortunately it is often seen in a languishing condition, which is probably due to the roots of this plant not liking peat. I had a plant under my care which for some time continued to deteriorate slowly, although several experiments were tried to save it. At last the plant was shaken out, thoroughly cleansed from the old peat and moss, and repotted into clean sphagnum only. The roots quickly responded to the change of compost, and the plant soon returned to its former healthy condition. The cool and shady part of the intermediate house is the proper place for it. Give plenty of water when in full growth, but when at rest it must be kept rather dryer than the majority of Odontoglossums.—*W. H. White.*

ONCIDIUM TIGRINUM.—This species is now pushing np new growths, and may be repotted. I prefer to grow this beautiful Orchid in pots under the same treatment as Odontoglossum crispum enjoys. Like many other cool Orchids, it is often injured by being kept too wet at the roots. Orchids do not require to be kept so wet as is sometimes supposed; it rots the compost and kills the roots, and what follows it is needless to say. When water is applied with moderation during the time the plants are growing, and they are kept on the dry side when inactive, repotting in many instances is really not necessary more than once in two or three years with these cool and intermediate species, and they are better if not pulled about for the purpose of repotting too often.—*J. Mackay.*

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ADA AURANTIACA.—This species is not seen so frequently in modern collections, although its flowers of cinnabar-red colour make a pleasing change to those of other tints. It is a native of Colombia, and was discovered by the Belgian collector, Schlim, about the year 1851. Cool house treatment is suitable.

ANSWERS TO CORRESPONDENTS.

Although it is true that many Cattleya species and hybrids will grow satisfactorily in an ordinary greenhouse during the summer months, some means must be adopted of maintaining a suitable atmosphere during the winter period. Unless the house has a sufficient amount of hot-water piping to sustain a temperature of about 60 degrees in winter, "K.S.R." had better not attempt the cultivation of Cattleyas and allied plants. The winter is always the trying period, and Orchids must either be well cultivated or else left alone. There are numerous species and hybrids which will give beautiful flowers when grown in the cool temperatures advised for such genera as Odontoglossums, Cypripediums, and Cymbidiums. Many amateurs confine themselves to one or more of these sections and obtain all the satisfaction expected. A winter temperature of about 50 degrees, with an occasional rise during bright weather, is usually sufficient.

Cymbidiums.—In preparing the composts for the various sections cultivators should always bear in mind that most of the Orchids can be classified as either of terrestrial or of epiphytic habit. The best grades of fibre are essential for the epiphytic kinds, but for Cymbidiums a good fibrous loam is generally used, and to which cultivators often add additional fibre in order to maintain a sufficiently porous nature. "Young Beginner" will find that the plants appreciate careful attention in the matter of watering, for if too much is applied to those in a fairly solid medium sourness frequently occurs, hence it is advisable to add extra fibre and some sand whenever the loam appears too solid.

Hybrids of Lælia purpurata.—No one can expect broad petalled flowers to be produced on the primary hybrids of Lælia purpurata. This species has a robust constitution, and it formed a trustworthy parent in the early days of hybridisation, when methods of seed-raising were far from perfect. Among the numerous descendants are Læliocattleya callistoglossa (L. purpurata × C. Warscewiczii), Lc. Canhamiana (L. purpurata × C. Mossiæ), and Lc. Fascinator (L. purpurata × C. Schœderæ). From these as well as from many other hybrids of L. purpurata, a varied series of hybrids has been produced. The two chief characters of this species are its strong constitution and the rich purple colour of the labellum.

Loss of Foliage.—From the description sent by our Somerset reader everything points to a sudden change from very shady conditions to almost unrestricted sunshine. Plants should never be removed to such extreme changes without very gradual stages. The Cattleyas have been kept in too dark a position, brought about by excessive shading, and were thus in a tender condition. Very gradual changes should be brought into use with such plants, and it would have been better to have kept them under rather more shady conditions than are usually adopted until after the most brilliant period of the year. The loss of foliage will mean a consequent diminishing of the plant's vigour. Do not let them flower on this season's bulbs.

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OBITUARY.—We regret to announce the death of Dr. Capart, at the age of 79 years. Well-known in Belgium as an amateur cultivator of Orchids, Dr. Capart will be remembered by Odontoglossum crispum Capartianum, exhibited by Mons. A. Peeters at the Temple Show of 1894, when it received an Award of Merit, and was the subject of a coloured plate in the *Dictionnaire Iconographique des Orchidées*. We also record the death ot Mr. Henry Stevens, for nearly 60 years a prominent auctioneer, who passed away on June 11th, at his home at Addlestone, Surrey, at the age of 82. In the early days of Orchid importing, Stevens' Auction Rooms attracted most of the amateur and trade buyers of the period, and many of the important sales will be remembered by some of our older readers. A sale that took place in the year 1881 is referred to on page 202.

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THUNIA MARSHALLIANA.—This species is flowering with me now, May 4th. It started growth just five weeks ago and now has a spike of five large flowers. This particular plant has been fully exposed to the sun and rain, and we have had 18 inches of rain during the five weeks it has been growing. I have other plants of the same species coming on, but they will not flower until after the regulation nine weeks. These other plants are in a bush house. I have had a most successful cold season, and my houses have been ablaze with colour for some months now. My trips into the Himalayas have been numerous and interesting.—*G. Lindley Hinde, Angarakhata Estate, Kamrup, Assam.*

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ORCHIS FOLIOSA.—Amateurs who have doubts as to the hardiness of Orchis foliosa (the Madeira Orchis) in English gardens will be interested in a note contributed by a correspondent in Renfrewshire to the *Gardeners' Chronicle* of June 6th. The writer says " There are several thousands of this Orchis here. I have have had it lying on the surface of the ground all the winter without its suffering any harm, while specimen plants in a bed have withstood more than 32° of frost. It is growing in a swampy bog with me, in exuberant health, and also blooms freely in poor, sandy, hot soil, though, needless to state, the growth is not nearly so luxuriant. It is a pity this terrestrial Orchid is not more frequently seen, but I am afraid the word Orchis conveys a feeling of tenderness, nor does the word Madeira help matters much, hence its absence from many gardens."

PATERSON'S SPECIMEN ORCHIDS IN 1882.

FIFTY years ago the name of Dr. Alex. Paterson, of Bridge-of-Allan, Stirlingshire, was well known to all amateur cultivators of Orchids, for he possessed some remarkably fine specimens of species that are rarely seen in present-day collections. The Editor owns a copy of the Descriptive Catalogue of Specimen Orchids from Dr. Paterson's collection which were sold by auction by Messrs. Smith & Dewar at Edinburgh on September 14th, 1882, and the followering particulars are of interest.

Odontoglossum vexillarium, now known as Miltonia vexillaria, is described as "probably the finest plant in the country. It is a very fine dark variety and had 34 spikes of flower on it this year. It is in perfect health and measures about two feet through." The sum of 15 guineas was obtained. Dendrobium fimbriatum oculatum giganteum consisted of 65 bulbs and 18 young growths. Dendrobium Hookerianum (Chrysotis) with eight bulbs, the tallest more than six feet in height, being the longest in the country, was purchased by Sir Trevor Lawrence for £2. Dendrobium thyrsiflorum Walkerianum is recorded as "really a most magnificent specimen, over 45 growths. It had 22 flower spikes on it this year, and is in perfect health." Sold for 37 guineas.

Dr. Paterson's collection was specially noteworthy for the fine specimens of Vanda tricolor, as well as of allied species. Vanda tricolor Patersonii very closely resembles the Dalkeith tricolor, being beautifully spotted with dark brown on a yellow ground, sepals and petals edged with pink, lip broad and of a very dark colour. A very free-flowering variety. The first plant offered, three feet in height, with two young growths at the bottom, and 20 leaves on the main stem, realised £21. A note in the Catalogue states that the number of leaves given is the height of one side of a plant, not up one side and down the other, which applies to all the plants so described. Such a plant to-day would probably be described as having 20 *pairs* of leaves, a term that is inappropriate, for the leaves are arranged alternately on the erect stem, not in pairs. Another plant of V. tricolor Patersonii, 27 leaves in height, realised 16 guineas; and a third, about 4 ft. high, was purchased by Messrs. Veitch for 14 guineas.

Angræcum sesquipedale, a splendid specimen, nearly two feet high, with 15 leaves on each side, came from the Botanic Garden Mauritius, about the year 1862, and was at one time in Mr. Wingate's collection. This realised 18 guineas. The plant of Aërides suavissimum, 13 leaves in height, was described by Reichenbach as being "the original variety, now almost lost to the country." It was disposed of for 17 guineas. Aërides Reichenbachianum, now regarded as a variety of A. suavissimum, realised 9 guineas. Aërides quinquevulnerum, 18 inches high, in grand health, described by Mr. Warner as being the best variety he had ever seen, sold for 6 guineas.

As another example of the tall plants of Vanda that were grown in the early-day collections, Dr. Paterson had Vanda suavis, Dublin Botanic Garden variety, five feet high, with three young breaks on it, one of which was 17 inches in length. This plant realised 21 guineas. Vanda suavis Rollison's variety, over four feet in height, with three young growths changed hands for 16 guineas.

Cattleya labiata Warneri, "a most magnificent specimen in a tub. It measures 27 inches across, and has 79 bulbs, 60 with leaves on." This plant was in the first collection of Orchids belonging to the late Provost Russell of Mayfield. Messrs. Veitch purchased it for 49 guineas. Cattleya Trianæ Symei named after Prof. Syme, consisted of ten bulbs and was sold for 39 guineas, while a similar sum was given for Cattleya labiata, four bulbs, described as a very scarce plant and guaranteed true. Lælia superbiens, 30 bulbs and three flowering growths, was purchased by Messrs. Backhouse for £31, and Lælia anceps Barkeri, a splendid plant, 30 inches across, and with ten young growths, realised £26.

Chysis bractescens with ten bulbs and two growths is described as "a magnificent specimen, having the largest bulbs of any plant of the same variety in the country. They measure 20 inches in length, and are seven inches round at the thickest part." Ten guineas was obtained for this fine specimen. Aërides Fieldingii, with 12 young plants at the bottom, and which carried no less than 13 spikes of flower, made £25. Terrestrial Orchids were represented by Disa grandiflora, 18 inches across, with 17 flower spikes, a model plant and very dark variety, and for which the comparatively low sum of £2 15s. was obtained.

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Vanda pumila.—This rare little Vanda was included in Messrs. Sanders' exhibit at the Royal Horticultural Society, June 19th, when a recently imported plant bore a couple of spikes, each with three creamy-white flowers, the fleshy lip streaked with purple. Messrs. Low & Co. included it in their Temple Show group of 1897, and Messrs. Moore, Ltd., exhibited a plant at the R.H.S. meeting on June 23rd, 1908, when it received a Botanical Certificate. This species is a native of Sikkim, at about 200 feet elevation, and is found in the bottoms of hot valleys, flowering during the month of May. It is rather smaller than V. cristata and V. alpina, which it resembles in general habit. In its native locality the flowers are very sweetly scented.

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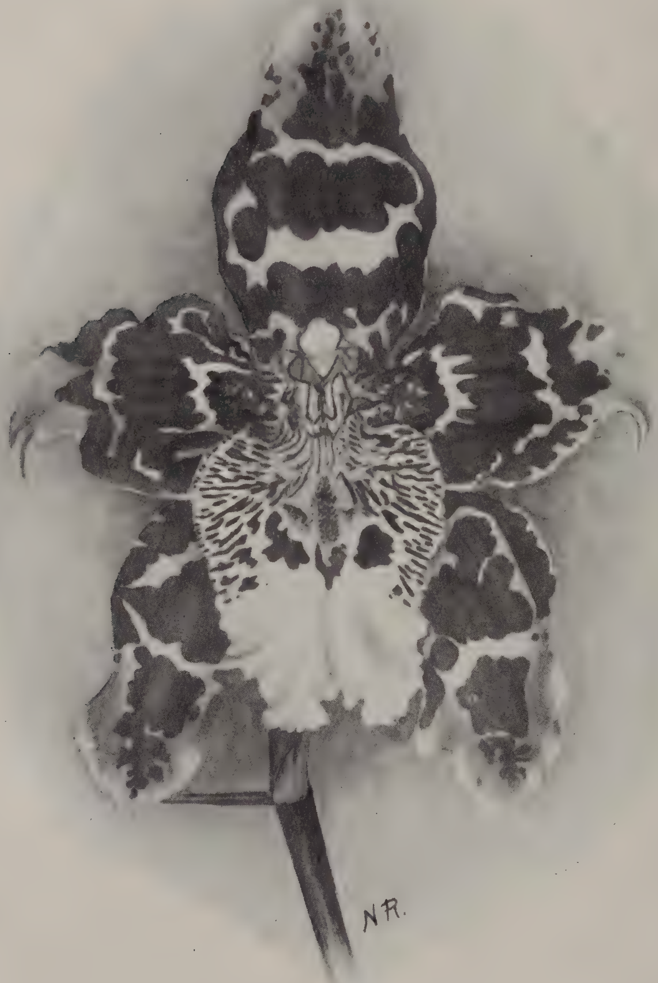
Royal Horticultural Society.—Meetings will be held on July 14th and 28th, and August 11th and 25th.

ODONTOGLOSSUM CRISPO-HARRYANUM.

TWENTY-FIVE years ago the raising of Odontoglossums from seed was in its infancy, and with the primitive methods then in use the results were few and far between. Although a certain number of natural hybrids were known, Odontoglossum crispo-Harryanum was one of the earliest of the artificially produced hybrids, for it was exhibited by Mons. Vuylsteke at the Temple Show of 1898. As the specific name suggests, this hybrid was obtained by crossing O. crispum with O. Harryanum; later on in the same year the reverse cross was made known, O. Harryanum being



ODONTOGLOSSUM CRISPO-HARRYANUM.

the seed-bearing plant. In 1899, O. spectabile (crispum × Harryanum) appeared, and led to some discussion as to whether the earlier record of crispo-Harryanum should be acknowledged as the correct name for this hybrid. In the opinion of some authorities the name crispo-Harryanum merely denoted the parentage, just as Harryano-crispum denoted the reverse cross. But in whatever manner these two species are crossed, the resulting hybrid is universally recognised under its earliest name of O. crispo-Harryanum.

The subject of our illustration was formerly in Mr. W. Cobb's collection, where it was known as Odontoglossum Cobbianum, but the early period of its existence and, more especially, the characters displayed leave little doubt that it is a large form of O. crispo-Harryanum. O. Harryanum is so very distinct from O. crispum and other members of the genus that its characters can be discerned, not only in the formation of the petals, but in the broadly developed labellum with the peculiar colour markings. Although the primary Odontoglossum hybrids are rarely seen in present-day exhibitions, their numerous descendants form one of the chief attractions of the R.H.S. Shows, while in almost every amateur's collection they may be seen in considerable variety.

In order to remedy the defect of the comparatively narrow petals existing in the primary hybrids of O. Harryanum, further crossings with O. crispum and O. Pescatorei have been effected. It is only necessary to mention O. amabile (crispo-Harryanum × crispum) and O. Jasper (amabile × crispum) in support of this statement as regards the influence of O. crispum, and O. Ossulstonii (crispo-Harryanum × Pescatorei) and O. Louise (Ossulstonii × Pescatorei) as regards O. Pescatorei. Generally speaking, the influence of O. Pescatorei results in the formation of branched flower spikes, with more numerous flowers of slightly smaller size than is the case when O. crispum is used as the other parental species.

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Oncidium Cavendishianum.—A showy species remarkable for the absence of pseudo-bulbs, the large broad fleshy leaves, together with the stout flower scape, growing out from between a few imbricated scaly bracts. The bright yellow flowers are produced during the dull winter months. Each flower is about an inch and a half in diameter, the sepals greenish-yellow spotted with bright chestnut, the petals similarly coloured, lip three-lobed and bright yellow, column wings curved, yellow spotted with red. Discovered by Mr. G. Ure Skinner in the neighbourhood of the city of Guatemala, and one of the first Orchids sent to England by that gentleman, it being included in his first consignment to Mr. Bateman in 1835. Cultivation is by no means difficult, the essential points being a sufficiently high temperature during the growing season and much atmospheric moisture.

NOTEWORTHY PLANTS AT CHELSEA SHOW.

IN addition to the plants which received awards, there were many noteworthy species and hybrids in the various groups. In fact, no matter in what particular section an amateur is interested, there were numerous attractions. Although Cypripediums are more generally seen in the autumn, Messrs. Cowan & Co., staged an interesting series of the so-called albino section, or those in which the purple colour is absent, leaving the flowers of varying shades of green. The most recently produced of these is C. Emerald (Curtisii Sanderæ × Maudiæ), with a large flower of light greenish colour. One would like to see the result of crossing C. Emerald with the autumn-flowering C. insigne Sanderæ, also Curtisii Sanderæ with insigne Sanderæ, for the coloured form of this latter cross has already been raised in C. miniatum.

Cattleya The Bride was seen in an entirely pure-white flower, staged by Messrs. Black & Flory. The majority of albino Cattleyas have the throat of the labellum more or less stained with yellow, which, in the opinion of some connoisseurs, enhances the beauty of the flower. In this case the absence of the yellow colour may be traced to C. intermedia alba, one of the parental species, and which is entirely pure-white.

A large flower of red colour would certainly be a valuable acquisition, but in whatever genus we search it is only the small flowers that possess this colour. In the genus Lælia the nearest approach to red is found in L. cinnabarina and L. harpophylla, both with comparatively small flowers, while in Sophronitis grandiflora the flowers are no larger, although of somewhat rounder formation. Messrs. Stuart Low obtained batches of red colour in their exhibit by the inclusion of well-flowered plants of Renanthera Imschootiana, with numerous flowers perhaps better described as of bright vermilion colour. This Burmese species was certainly effective.

Epidendrum gattonense is one of the best of the garden-raised hybrids in this genus, and is noteworthy on account of the long time during which the tall spikes continue to yield flowers. Messrs. Cypher & Sons had several examples of it in their group, as well as of other Epidendrum hybrids in the same section, more than one of which had been flowering for over ten months. The same firm exhibited several distinct varieties of Lælia purpurata, a Brazilian species of stately habit and the parent of several popular hybrids.

Cymbidium Lowianum was at one time imported in immense quantities, but the raising of numerous hybrids has diminished the demand and no further consignments seem likely. On this account it will not be possible to obtain any new varieties, although in C. Lowianum concolor we already possess a variety in which the dark crimson colour on the front lobe of the labellum has almost vanished, while in C. Lowianum Fir Grange variety this colour is seen in its fullest intensity. Both of these varieties were included in Mr. Harry Dixon's group.

Messrs. Sanders' exhibit contained further instances of how dependent hybridists are on the small-flowering species for scarlet and red colours. All the varying tints of these colours in the numerous Odontiodas have been obtained through Cochlioda Nœzliana, the small flowers of which possess an attractive scarlet colour. One of the best was seen in Odontioda Grenadier.

Masdevallia O'Brieniana was exhibited by Messrs Mansell & Hatcher, and represented the small-growing section of the genus. The flowers require to be seen through a magnifying lens for their construction and beauty to be fully admired. Another species of very similar habit exists in M. simula.

Although the Odontonias are a comparatively new section, those already seen indicate the beautiful effect which will be produced when the plants are grown into specimen-size with several spikes of arching habit. Messrs. Charlesworth & Co. staged several Odontonias in their extensive exhibit, and the colours varied so much that the near future should witness them in varying shades of yellow, red and purple, mostly blotched with a darker colour, but with the chance of entirely new combinations. Progress is still being made in the production of a yellow Odontoglossum, and in some of the varieties of O. crispum xanthotes, as well as in its hybrids, there was evidence of the spotting being increased to blotching, more especially on the sepals, which, strange to say, are nearly always more spotted than the petals.

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MILTONIA CUNEATA.—This pretty species, resembling M. candida in its manner of growth, produces erect racemes of from six to eight flowers, each from two to three inches across, the sepals and petals chestnut-brown tipped with light yellow, the lip white with a narrow claw.

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DENDROBIUM CRASSINODE.—This species may generally be distinguished by its knotted joints or nodes on the stems, a character that suggested the specific name. The flowers are white, tipped with magenta-purple, and produced during the months of January and February. It was collected by Col. Benson, in 1868, on the mountains of Arracan, east of Moulmein, at 2,500 feet elevation. In the variety albiflorum the flowers are white, except the orange-yellow disc on the lip, while in the variety Barberianum, the flowers are of brighter colours than in the typical form, the magenta-purple spots at the tips of the segments being also larger and of a deeper colour.

NEW HYBRIDS.

NAME.	PARENTAGE.	EXHIBITOR.
Cattleya Ashlands	Dupreana × Tityus	R. Ashworth, Esq.
Dendrobium Hercules	Prince Arthur × Thwaitesiæ	Sir J. Colman.
Læliocattleya Dainty Maid	Lc. Mercia × Lc. Goldcrest	C. J. Lucas, Esq.
Læliocattleya Lugano	Lc. eximia × C. Empress Frederick	Stuart Low.
Odontioda Breworthii	Brewii × Charlesworthii	A. Hanmer, Esq.
Odontioda Maie	Bradshawiæ × Othello	Sir J Colman.
Odontioda Redstart	Oda. Brewii × Odm. percultum	Sanders.
Odontoglossum Crispodusky	crispo-Harryanum × Dusky Monarch	R. Paterson, Esq.
Odontoglossum Goga	King George V. × Lambeauianum	Sir J. Colman.
Odontoglossum Gwenifer	percultum × St. James	R. Gerrish, Esq.
Odontoglossum Harriathan	Harryanum × Leviathan	R. Paterson, Esq.
Odontoglossum Lady Holmden	Lord Pirrie × Amethyst	Sir J. Colman.
Odontoglossum Sunbelle	Watsonii × Safron	J. & A. McBean.
Odontoglossum Thelma	eximium × Radiant	„ „

ERRATUM.—Odontoglossum Cranmore recorded on p. 185 should read Odontoglossum Cramore.

ODONTOGLOSSUM ERZERUM AUREUM.—Messrs. J. & A. McBean have raised a new form of Odontoglossum Erzerum by crossing O. Fascinator aureum with O. crispum aureum.

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ODONTOGLOSSUM WILTRIANUM.—A hybrid showing evidence of Odontoglossum Wilckeanum, triumphans, and Harryanum in the parentage has flowered in the collection of Robert Paterson, Esq., Glasgow, and been named Odontoglossum Wiltrianum.

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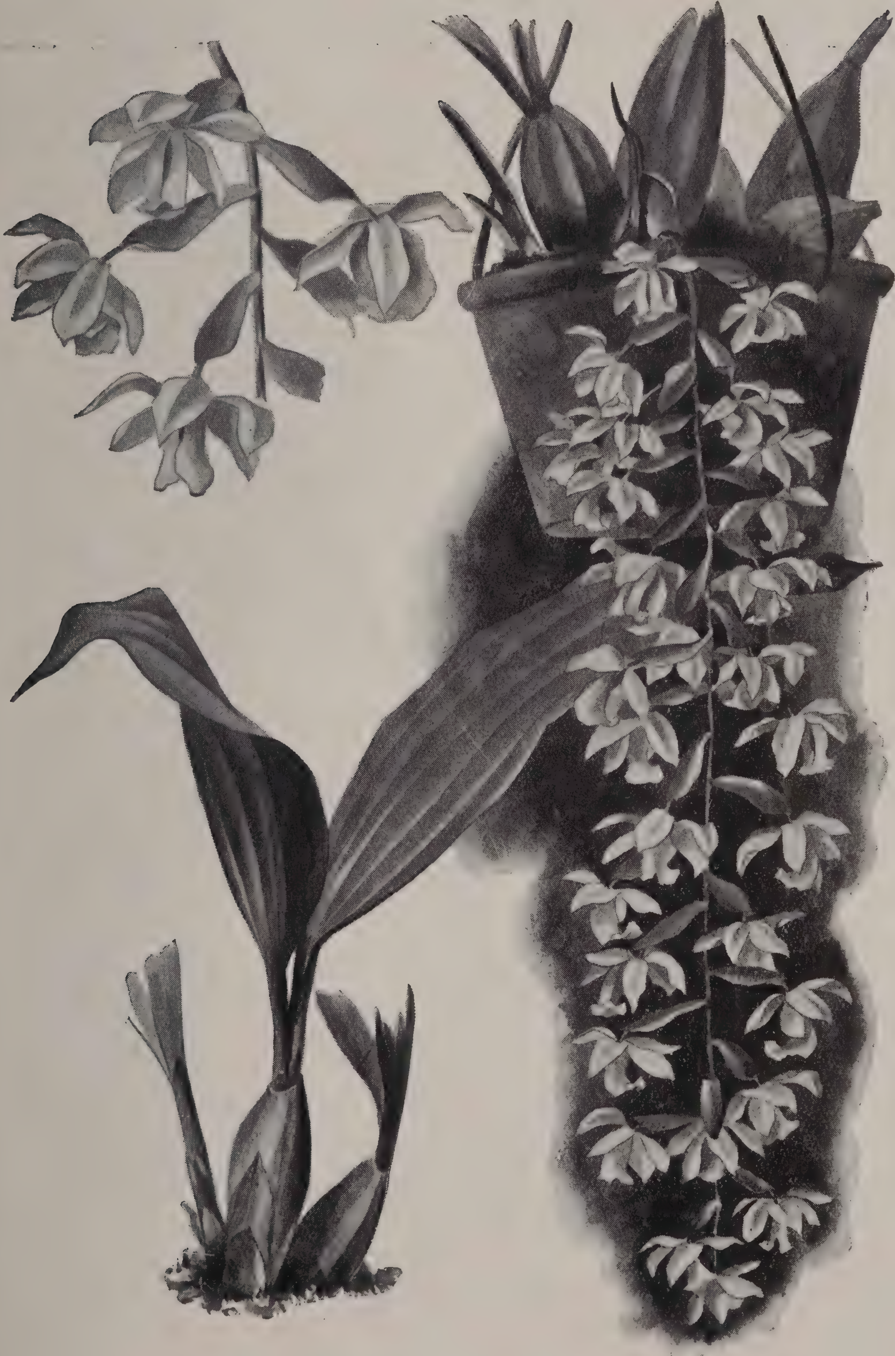
CŒLOGYNE VEITCHII.

THE genus Cœlogyne is a popular one with many amateurs, perhaps on account of the well-known C. cristata, which has frequently been one of the foundation plants of new collections. While some of the species bear erect inflorescences, as seen in C. Mooreana, barbata and speciosa, others produce long pendulous racemes, familiar examples being C. Dayana, Massangeana and flaccida. Cœlogyne Veitchii belongs to the latter section, and bears a long pendulous raceme of pure-white flowers, without any markings. It was collected by David Burke in Western New Guinea when sent there by Messrs. Veitch in search of new Orchids. It was exhibited at the Royal Horticultural Society's meeting on August 27th, 1895, when it obtained an Award of Merit. From our illustration it will be ascertained that a shallow pan is the best receptacle for this species, for when in flower it must be suspended so that the pendulous spike may be in a natural position. A warm and moist atmosphere is necessary throughout the year. During the growing season the pan may be placed on the staging, where it can be better attended to in the matter of watering, but when suspended during the flowering period care must be taken to ensure that the foliage is not damaged by insufficient shade. The leaves are much thinner than those of Cattleyas, and on that account suggest more careful treatment.



CŒLOGYNE VEITCHII.

ROYAL HORTICULTURAL SOCIETY.

June 9th, 1925.

MEMBERS of the Orchid Committee present: Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), Jas. O'Brien, C. J. Lucas, F. K. Sander, S. W. Flory, H. T. Pitt, John Cowan, J. E. Shill, A. Dye, T. Armstrong, H. G. Alexander, C. H. Curtis, and Stuart H. Low.

Awards of Merit.

Odontoglossum crispum var. Renown; from J. J. Bolton, Esq., Claygate, Surrey (gr. Mr. S. Lyne). The plant bore a spike of six large flowers with the white segments broadly developed, the labellum having a crimson blotch on the central area. It is a garden-raised plant, having been produced by mating selected varieties of imported plants from Colombia.

Miltonia vexillaria var. Rajah; from Messrs. Black and Flory. This interesting plant was obtained by crossing M. vexillaria var. G. D. Owen with a variety of M. vexillaria having radiating lines of colour on the labellum. The resulting seedling not only inherits the characteristic blotch on the labellum of the former parent, but does so in an enlarged form, the area of the blotch being equal to the extent of the radiating lines seen in the pollen parent.

Cattleya Suavior var. Hercules.—By an oversight this plant was omitted from our list of Chelsea Show awards. The parents are C. Mendelii and C. intermedia Aquinii, the large flower has the petals effectively flushed with purple on their outer area, and is one of the best results so far obtained from the use of the latter parent, which is considered a peloriate form of C. intermedia. Exhibited at the Chelsea Show by Messrs. Stuart Low & Co., when it received an Award of Merit.

Preliminary Commendation.

Odontioda Opal, Gerrish's variety (Oda. Cooksoniæ × Odm. Eximillus); from R. Gerrish, Esq., Milford Manor, Salisbury (gr. Mr. Sorrell). A promising seedling which bore a single flower of deep-rose tint, the segments heavily blotched with reddish scarlet, the labellum of a deeper rose colour and with a reddish blotch near the yellow crest.

Cultural Commendation

To Mr. J. T. Barker, Orchid grower to Sir Herbert S. Leon, Bart., Bletchley Park, Bucks, for a beautiful specimen of Cattleya Queen Mary (Mendelii alba × Warneri alba), bearing six spikes with a total of 16 flowers, pure-white, except for some orange-yellow colour in the tube of the labellum.

GROUPS AND OTHER EXHIBITS.

Messrs. Sanders received a Silver Banksian Medal for an attractive exhibit containing a number of recently imported plants of Thunia Marshalliana from a new locality, but which did not appear to differ in any way from the recognised type. The centre was occupied by Vanda pumila, with two spikes each having three flowers, and recently imported, as also was a flowering plant of Cypripedium bellatulum. A pretty effect was given by several plants of Bletia verucunda, with tall spikes each bearing several bright purplish-rose coloured flowers. An elegant hybrid was staged in Odontoglossum Wilckeanum var. Mikado (luteopurpureum var. Vuylstekeanum × crispum xanthotes), the combined effect of the two albino parents producing flowers of bright yellow colour, the segments blotched with a deeper yellow. Other plants of interest included Bifrenaria pubigera, Bulbophyllum Lobbii Colossus and Dendrobium triflorum. A well-flowered example of Cymbidium Devonianum, and several selected varieties of Odontioda Chanticler were in prominent positions, while Oncidium Marshallianum, with a branching spike of golden yellow flowers, added further colour. Mention may also be made of Brassolæliocattleya Veitchii, with three large flowers of rose-purple colour, and darker than usually seen on this particular hybrid.

Messrs. Stuart Low & Co. were awarded a Bronze Banksian Medal for a select assemblage of various hybrids. Along the back were several finely flowered examples of Læliocattleya Aphrodite, with dark purple lips, also Lc. Ruby (Lc. Hyeana × C. Empress Frederick), of pretty colouring, and Lc. Peleus (C. Enid × Lc. Dominiana). Among the hybrids of Brassavola Digbyana we noted Brassolælia Saundersii, with flowers of a peculiar bronze-rose tint, while Odontiodas were strongly represented in some of the primary hybrids, such as Oda. Bradshawiæ. Anguloa Clowesii, with its large yellow flower of cradle-like formation, proved an interesting plant, and Dendrobium suavissimum, with numerous flowers of bright golden yellow, came in for well-deserved appreciation. Cattleya Mendelii was also seen, and C. Mossiæ in a variety with white segments, except for slight rose markings on the lip.

R. Gerrish, Esq., Milford Manor, Salisbury, exhibited Odontoglossum Gwenifer (percultum × St. James), a novelty with two large flowers, heavily blotched with reddish-purple, the labellum well proportioned and the column reddish-purple.

Mrs. Menteith Ogilvie, Kensington, W. (gr. Mr. Finlay), exhibited Lælia Pacavia (tenebrosa × purpurata), Læliocattleya Aphrodite, of pleasing rose and purple tints, and Lc. Canhamiana var. Mrs. M. Ogilvie, in which the dark purple labellum was the chief feature.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), was accorded a Vote of Thanks for an exhibit comprising the interesting Megaclinium Imschootianum, a rare species from some part of West Tropical Africa, and which was originally described from a plant which flowered with M. A. Van Imschoot in 1895; Bulbophyllum penicillium, with an extrèmely motile lip; the pretty Dendrobium Victoriæ Reginæ; Brassia verrucosa, with attenuated segments; various Masdevallias; Polycycnis paniculata, and in the centre a superb example of Cirrhopetalum robustum, with an umbel of 12 large flowers of greenish yellow colour, and to which a First-class Certificate was given on July 11th, 1895, a high honour for a Cirrhopetalum.

Sir Herbert H. Leon, Bart., Bletchley Park, showed Læliocattleya Victrix, with flowers of light blush colour, the petals flushed and striated with purple, the labellum rich ruby purple.

Messrs. Cowan & Co. staged Brassolæliocattleya Jupiter, with a couple of large flowers of rosy-mauve colour, the purplish labellum prettily fringed at the margin.

Messrs. Black & Flory showed five examples of Miltonia vexillaria var. Doris, raised from seed, and of floriferous nature, rose tinted, the labellum having a rayed disc of darker colour.

June 23rd, 1925.

Members of the Orchid Committee present:—Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), Stuart H. Low, T. Armstrong, J. Wilson Potter, John Cowan, A. McBean, Charles H. Curtis, Frederick K. Sander, Arthur Dye, H. T. Pitt, and C. J. Lucas.

Award of Merit.

Læliocattleya Beatrice de Herriard, a novelty obtained by crossing C. Veiris (Venus × Iris) with Lc. Ettrick (C. Dowiana × Lc. bletchleyensis), and exhibited by Mrs. Beatrice Jervoise, Herriard Park, Basingstoke. This young plant carried a single flower having the sepals yellowish, the erect and broadly developed petals of lighter yellow, and the labellum heavily stained on the front lobe with ruby-crimson, the apical margin cream coloured. In general, it belongs to the well-known Venus and Iris section, and should make a worthy addition when further improved by another season's growth.

Preliminary Commendation.

Odontoglossum Lady Colman (Lambeauianum × V.C.), a promising hybrid with a large flower of massive formation, white, slightly rose tinged, and all the segments heavily blotched with dark crimson, the roundly formed labellum white, with a crimson blotch in the centre and a yellow crest. From Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier).

Odontoglossum Lady Holmden (Lord Pirrie × Amethyst), a finely-formed flower with the segments almost covered with chocolate-purple blotching, the elongated labellum bears a dark crimson blotch, and has a white apical area. From Sir Jeremiah Colman, Bart.

Odontoglossum eximium var. Gatton Triumph (crispum solum × ardentissimum var. J. Gurney Fowler). A very interesting result. Out of thirty seedlings so far flowered this is the first of the batch to display the well-known colour markings of crispum solum, which it does in a somewhat brighter degree. The two flowers each had occasional circular blotches of crimson-purple on the segments, the labellum in both cases being almost entirely covered with dark crimson colour, the exception being slight yellow on the crest area. Each of the sepals bears a narrow crimson zone at its extreme base. Shown by Sir Jeremiah Colman, Bart.

Groups and Other Exhibits.

Messrs. Sanders were awarded a Silver Banksian Medal for a very prettily arranged group containing nine well-flowered examples of Thunia Marshalliana along the back row, as well as two superb specimens of Dendrobium thyrsiflorum, and another of D. chrysotoxum. Cattleya Kienastiana alba, with a spike of three white flowers, the labellum richly coloured, and C. Thurgoodiana stood out prominently, and C. Dupreana was also noted on account of its deep mauve coloured flowers. In the centre were Phalænopsis amabilis, two finely flowered plants of Thunia Brymeriana, with a rose-bordered labellum, and four robust plants of Cypripedium Godefroyæ. A rarity was seen in Cryptochilus sanguinea, while Broughtonia sanguinea and the scarce Bulbophyllum saurocephalum may also be mentioned. Among the Odontoglossums were citrosmum amabile and cordatum, while Brassia verrucosa, Odontonia Lælia Sander, and Bletia Shepherdii came in for appreciation. Cypripedium Curtisii Sanderæ was the best of its section.

Messrs. Stuart Low & Co. obtained a Bronze Banksian Medal for an exhibit containing Odontioda Bruin (Oda. Brewii × Odm. His Majesty), with a single flower of crimson-red colour, and of a promising nature. In the centre was Dendrobium Victoriæ Reginæ cœruleum, with flowers of a more intense colour than usually seen, while on each side were arranged Cypripedium philippinense, Phalænopsis Lueddemmaniana, with many flowers, and Odontoglossums Williamsii. Cattleya Warscewiczii was represented by a plant with five large flowers, and Odontoglossum Crethus by a variety having flowers of a pleasing violet tinge. Oncidiums were seen in pulvinatum and phymatochilum, both with many-flowered racemes, while Epidendrum Parkinsonianum attracted attention on account of its pendulous habit. A pretty Dendrobium was staged in suavissimum, which is generally regarded as a variety of the Burmese D. chrysotoxum.

Mrs. Beatrice Jervoise, Herriard Park, Basingstoke, exhibited Læliocattleya Tamar var. herriardensis, a pleasing hybrid obtained by crossing Lc. St. Gothard with C. Trianæ, the large flower showing traces of Lælia tenebrosa, one of the component species of the former parent.

MANCHESTER ORCHID SOCIETY.

May 15*th*, 1925.

Members of the Committee present:—J. McCartney, Esq. (in the Chair), Messrs. A. Burns, A. Coningsby, J. Evans, G. Giles, A. Keeling, E. W. Thompson, and H. Arthur (Secretary).

First-class Certificates.

Odontoglossum Laurentia var. Collosus, a large flower densely spotted with violet-brown; from P. Smith, Esq.

Odontoglossum crispum var. R. F. Felton, a finely formed flower, white, fimriated sepals and petals, and with minute spotting; from P. Smith, Esq.

Odontoglossum Faustina superba, an excellent hybrid with deep red-claret sepals and petals, the tips lighter; from A. Hanmer, Esq.

Awards of Merit.

Odontoglossum crispum var. Royal Rosette; from Mrs. Gratrix.

Odontoglossum crispum var. Queen of Denmark; from S. Gratrix, Esq.

Odontioda Elaine perfecta; from P. Smith, Esq.

Cultural Certificates were given to Mr. A. Burns, for Miltonia vexillaria var. Oswaldii, and to Mr. G. Giles, for Odontoglossum crispum xanthotes.

Groups.

Silver-gilt Medals were awarded to S. Gratrix, Esq. (gr. Mr. C. Branch), and to A. Hanmer, Esq. (gr. Mr. G. Giles); a Large Silver Medal to Mrs. Bruce and Miss Wrigley (gr. Mr. A. Burns).

Epidendrum prismatocarpum.—This is an easily grown species, and the good varieties are most beautiful and attractive. The racemes appear from the top of the last made pseudo-bulbs, and are erect and about a foot long, bearing many flowers, the sepals and petals of which are more or less covered with purple blotches and the lip rose-coloured. In some varieties these blotches are intensely bright and cheerful, which, of course, assists in making the good variety. Large well grown plants are always admired, and formerly were much used as specimen plants for exhibition. It grows well in the ordinary compost of peat and moss in equal parts, in well drained pots, and prefers a temperature such as the Cattleya house.—*J. Mackay.*

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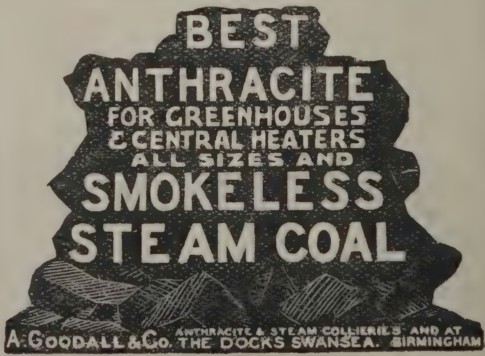
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NOTES.

JAMAICAN ORCHIDS.—In the *Orchid Review* for April, p. 111, I read with much interest an article in which it was stated that the Broughtonia species are difficult to flower in England. May this not be on account of the way they are grown? I find out here that several of the Jamaica species, notably Broughtonia sanguinea, B. lilacina, Oncidium luridum, and Schomburgkia Lyonsii, are most difficult to flower when planted in baskets or pots. Rough treatment seems to suit them best, with plenty of sun, and but little water. I never put peat or moss at their roots. I wire my Broughtonias on a rough Divi-Divi log (tree-fern seems to be most distasteful to them) and find they thrive amazingly. I treat Schomburgkia the same way. Oncidium luridum I have grown by just splitting a rotten coconut-husk and laying the rhizome between, wiring the whole tightly together. In this way I have produced some of the finest sprays of this beautiful Oncidium that I have ever seen. If any readers would like to try growing these plants my way I shall be glad to send specimens of the plants named to anyone who cares to write me for them.—*Geo. A. Rock, General Post Office, Kingston, Jamaica.*

GERMINATION OF ORCHID SEEDS.—At the recent Horticultural Meeting held in connection with the International Exhibition of Decorative Arts, Paris, Messrs. Vacherot & Lecoufle, of Boissy-Saint-Léger, showed some remarkable results obtained by modern methods of germinating Orchid seeds. By the symbiotic process, Vanda seedlings of two to four month's growth were shown, also Oncidiums growing with regularity and rapidity, and Phalænopsis seedlings with roots. By the asymbiotic process, flasks containing quantities of Odontoglossum, Oncidium, Miltonia, and Phalænopsis seedlings, all with the first leaves, were exhibited. Included in this exhibit were young plants from 12 to 24 months old, and belonging to the following genera: Cattleya, Oncidium, Miltonia, Cypripedium, Odontoglossum, Masdevallia, Vanda, Phalænopsis, and Dendrobium Phalænopsis. This group showed by different methods of culture, with or without the endophytic fungus, how Orchid seeds could be abundantly germinated.

DIPLOMERIS HIRSUTA.—At the meeting of the Royal Horticultural Society held on July 14th, Messrs. Sanders exhibited Diplomeris hirsuta, when an Award of Merit was given. This species is a native of Sikkim, where it is found in the valley of the Teesta, at an elevation of about 1,200 feet, on sandstone rocks, the flowering period being from June to August. The plant consists of a globose tuber, with a very short stem, and a solitary leaf bearing stiff scattered hairs on both surfaces, from which the specific name is derived. The flower is about an inch and a half long and an inch in width, the sepals ovate-oblong, the much larger petals orbicular-reniform, the lip somewhat longer than the sepals, orbicular, clawed at the base, the spur funnel-shaped at the mouth, otherwise cylindric, curved, and three or four times as long as the ovary. The flower is pure-white, and when several are seen together, as was the case with Messrs. Sanders' exhibit, the effect is charming. Sir George King, in *Orchids of the Sikkim-Himalaya,* referred to the structural arrangements of Diplomeris hirsuta, and expressed the opinion that in Diplomeris there are two anthers, one placed on each side of the posterior or infertile stigma; that the staminode represents the second cell of each anther; and that the viscid glands of the pollinia are not, in the expanded flower, connected with the infertile stigma. Mr. R. A. Rolfe did not accept this view, and in the *Orchid Review*, vol. vi., p. 266, remarked that the flowers of this group have undergone such an extraordinary amount of distortion, owing to the suppression and division of the different organs and the union of unlike parts with each other, that it is not safe to trust to appearances, and, to the extent pointed out above, the characters of the tribe Ophrydeæ in this work must be modified. And the same may be said of the remarks under Diplomeris.

LÆLIA CRISPA.—One of the best of the Lælias. A native of southern Brazil, where it is found growing on lofty trees fully exposed to the sun and air, and sometimes even on rocks in immense masses on the mountains near Rio de Janeiro, also in the southern parts of the province of Minas Geræs at an elevation of about 3,000 feet. Flowers with the segments much crisped and undulated, 4-5 inches across, sepals and petals white, sometimes tinged with purple towards the base, lip three-lobed, the side lobe yellow on the inner side, the central lobe amethyst-purple, veined and reticulated with deep purple. Originally described under the name Cattleya crispa, but as the pollinia consists of two series of four each it clearly belongs to the Lælia genus. Under cultivation it usually flowers from the middle of July to the end of August.

NOTES FROM THE ROYAL BOTANIC GARDEN, EDINBURGH.

By A. J. Munday.

It is not generally known among Orchid enthusiasts that such a large collection of the old Orchid species has been kept together in the Edinburgh Royal Botanic Garden. Roughly speaking, some 750 species and varieties of the different genera, among a good deal of hybrids, make up a very interesting collection, although many of the species included are of little value other than botanical interest. Nevertheless, the characters of some of these plants are a study in themselves, so for the sake of all Orchid lovers, old and new, I append a list of all the species and varieties that were in flower on July 1st.

Among the Bulbophyllums can be seen an old favourite in B. barbigerum, also B. Godseffianum, B. inflatum, B. nutans, and B. patens. Brassavola tuberculata is a plant rarely seen now. Cattleya Gaskelliana is represented by a pretty variety called White Queen. Cirrhopetalum robustum is considered by many the best of this group, other members of the genus being C. elegantulum and C. umbellatum. A pretty little species is here grown in Cochlioda sanguinea, while Coelogyne pandurata is a fine old species with two flower spikes. Coelogyne speciosa is represented by a good variety with a very dark lip. Cryptophoranthus gracilentus and C. Dayanus possess quaint flowers and outstanding foliage. Dendrobium Lyonii is rather an extraordinary plant, with two large spikes carrying 18 and 15 flowers respectively. It is usually shown as D. acuminatum, and according to *Index kewensis* is synonymous with Sarcopodium Lyonii. Another pretty Dendrobe is seen in D. Victoriæ Reginæ, carrying several of its blue flowers.

Epidendrums are represented by E. fragrans, E. prismatocarpum, still one of the most fascinating of Orchids, and E. vitellinum majus, also an old favourite. The two last mentioned plants are in a happy condition here. Eria pannea is a pretty little plant with its woolly appearance. Eulophia gracilis is a species from the Sierra Leone district. Lælia tenebrosa is still an old favourite, while as regards Lycaste aromatica and L. Deppei, both are of interest, the latter being represented by a good plant with nine flowers.

Masdevallias are by no means lacking in variety, among them being amabilis, bella and Carderi. Of the chimæra section of Masdevallia, there are the forms known as Roezlii, severa, and Wallisii. Other representatives of the genus are coccinea var. expansa, coccinea Harryana, corniculata, cuculata, demissa, Houtteana, muscosa, and Reichenbachiana. Of Maxillarias, five species are at present in flower, viz., meleagris, ochroleuca, Sanderiana, a fine old species which has flowered well with us this year, tenuifolia, and venusta. A very rare and interesting plant is cultivated here in Megaclinium Lindleyi. Microstylis Scottii is very notable for its foliage.

Odontoglossums are represented by O. crispum, and a few named varieties. There is also a fine plant of Odontoglossum Williamsianum. Oncidium candidum is an interesting little plant with its small white flowers. Of the Paphiopedilums, a few old favourites are seen in barbatum, callosum Sanderæ, Chamberlainianum, Dayanum, a distinct variety of Godefroyæ, Lawrenceanum, and its variety Hyeanum, and the grand old Rothschildianum. Phaius (or Thunia) Bensoniæ and P. Marshalliæ are quite showy old subjects. There is also Pholidota articulata, as well as Physosiphon Loddigesii, a fine old plant carrying 180 flower spikes. Platyclinis latifolia, though not the best, is a member of a very graceful genus of Orchids.

Polystachya bracteosa deserves special mention on account of it being a very fine specimen growing on a block of wood and carrying eight drooping spikes of brownish yellow flowers; it is an old species, but one of the best of the Polystachya group. This particular plant was sent home from Sierra Leone by W. B. Bowden, Esq., a most ardent amateur collector. Our collection of West Tropical African Orchids has been very much enriched by Mr. Bowden's contributions of the past few years, chiefly in Angræcum, Bulbophyllum, Megaclinium, Listrostachys and Polystachya.

Other interesting plants are grown here in Pleurothallis cardium, P. Laucheana, Promenæa citrina, Restrepia maculata, and R. trichoglossa. Saccolabium giganteum is a pretty species well worthy of cultivation. The genus Scaphosepalum is represented in the species anchoriferum, ochthodes, pulvinare, and swertiæfolium, while amongst others in flower are Stelis Miersii, Thrixspermum elegans, and Vanda suavis var. Veitchii.

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MASDEVALLIA MACRURA.—This plant is a giant among Masdevallias, the leaves being broad and very leathery. In colour the large flowers are dull tawny-yellow, shaded with brown externally, and bearing numerous blackish-purple warts. It was discovered by Rœzl in 1871, but not introduced to cultivation until 1876.

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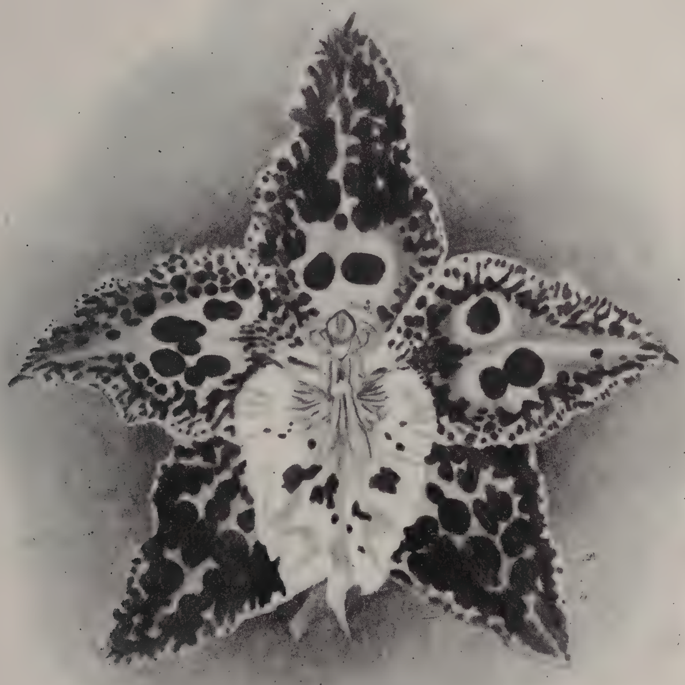
ONCIDIUM GARDNERI.—This attractive species was discovered by Gardner on the Organ Mountains. Flower scapes about two feet in height, the individual flowers about two inches in diameter, sepals brown barred with yellow, the larger petals chestnut-brown with numerous yellow markings along the margin; the expansive labellum bright yellow with a broad zone of red-brown confluent spots near the margin. It requires cool house treatment, and flowers during the months of June and July.

ODONTOGLOSSUM LAMBEAUIANUM.

SOME twenty years have passed since the first Odontoglossum Lambeauianum made its appearance. It was recorded as a garden-raised hybrid between O. Rolfeæ (Pescatorei × Harryanum) and O. crispum. This implies that the colour markings are derived entirely from the Harryanum species, which seems somewhat improbable when their design is examined in the accompanying illustration. It is more likely that the "crispum" used was one of the blotched forms which are now regarded as natural hybrids, such as O. Wilckeanum. This supposition is supported by the wide variation witnessed in the many other hybrids containing a blotched crispum in their parentage. In the variety of O. Lambeauianum herewith illustrated the white flower is rose tinted on the surface of the sepals and petals, the whitish labellum thus standing out more prominently than in the majority of these hybrids. While the petals are marked with purplish spotting chiefly arranged near the outer area, the



ODONTOGLOSSUM LAMBEAUIANUM.

sepals bear heavier spotting and of confluent nature. The spiny crest of yellow colour on the base of the labellum is a pleasing character. This hybrid was named in honour of M. Firmin Lambeau, the well-known amateur, of Villa Vogelsang, near Brussels. Almost all of the hybrids containing O. Harryanum in their parentage are easy subjects to cultivate, and during the early spring and summer months produce many-flowered racemes. Familiar examples exist in O. amabile, O. crispo-Harryanum, and O. Queen Alexandra. In the primary hybrids of O. Harryanum the petals do not open out to their fullest extent, but they possess a thick texture that renders them of long lasting nature.

NATIVE ORCHIDS OF BRITAIN.

A REALLY useful book for amateurs has just been published in *Native Orchids of Britain*, with descriptive notes of all species, together with some hybrids and abnormal forms. The author, Mr. C. B. Tahourdin, has been keenly interested in the subject since 1890, and the present work is the outcome of his own studies and experiences. Of particular attraction to amateurs are the 57 photographic reproductions, prepared life-size whenever possible, which will considerably assist students in identifying the various species. As regards the much discussed Orchis maculata, Mr. Tahourdin, after close study of all the arguments advanced, has adopted the views expressed by Colonel Godfery and the two Drs. Stephenson. By Orchis maculata the author means the plant which for some time has been called O. Fuchsii, and by O. elodes he means the plant first separately noted as O. maculata var. ericetorum and later as O. ericetorum, and which has also been referred to as O. maculata præcox.

In the notes referring to abnormal forms, Mr. Tahourdin remarks that it would seem that Platanthera chlorantha sometimes bears flowers almost if not entirely green, and in these cases the spike is usually rather densely flowered. An abnormal form of Platanthera bifolia is illustrated. In this the flower opens more widely, the lip is broader and much shorter than in the normal form, and the spur, instead of being very long and slender, is very short, almost insignificant. A cleistogamous form of Orchis mascula, that is to say, a form which produces seed in unopened flowers by self-fertilisation, is mentioned, also three-lipped examples of Orchis morio and O. muscifera.

Amateurs and others who make use of this book will appreciate the manner in which the illustrations are arranged opposite the respective descriptions. A work of this nature has long been wanted, and we feel sure it will meet with the success it deserves. Copies may be obtained, price 5s. 4d. post free, from Mr. C. B. Tahourdin, 86 Manor Road, Wallington, Surrey.

NOTEWORTHY PLANTS.

BLUE Orchids are certainly scarce, and those that have been described as of blue colour are not exactly of the true blue that one would like to see, but they are nevertheless appreciated. At the R.H.S. meeting on June 23rd, Messrs. Stuart Low & Co., showed Dendrobium Victoriæ Reginæ cœruleum, of a deeper tint of slate-blue than usually seen, and the flowers were probably a little larger. The plant was robust, and had been grown under cool-house conditions, which is the most successful method. It has also been noticed that Cypripedium Fairrieanum produces flowers of darker colour when grown under cool conditions. Perhaps D. Victoriæ Reginæ has a future before it in the hands of the hybridists, and that it may lead to blue-flowering hybrids. So far, there does not appear to be any record of its hybrid descendants.

Odontoglossum Wilkeanum var. Mikado has recently been exhibited by Messrs. Sanders, and is of interest as representing a distinct garden-raised form of this otherwise natural hybrid between O. crispum and O. luteopurpureum. The early forms of O. Wilkeanum appeared in importations of O. crispum from Colombia. The flowers were large, with the segments attenuated and somewhat narrow, of a dingy yellowish colour, blotched with reddish-brown. The variety Mikado was obtained artificially by crossing crispum xanthotes with luteopurpureum Vuylstekeanum, the former parent being white with a few yellow spots, and the latter clear yellow with darker yellow blotches in place of the reddish-brown. In the hybrids obtained from the crossing of these two distinct varieties no reversion to the typically coloured type has been seen. The variety Mikado represents one of the best of the batch, so far as development of the segments is concerned, while the colour is bright yellow with blotching of a deeper tint. Many years ago an interest was taken in O. Wilckeanum albens, figured in the *Orchid Review*, vol. xv, p. 217, and in which the flower showed the white ground of the crispum parent. It had nothing like the attractive characters possessed by the yellow section, as now seen in the variety Mikado.

Cymbidium tigrinum is one of the species which in past years was placed on one side to make room for the numerous hybrids in the genus. It is really a most suitable plant for collections on account of its dwarf and compact habit, the height of the foliage and flower spike rarely exceeding a foot. It was discovered in 1863 by the Rev. C. Parish, upon rocks on the mountains of Tenasserim at 6,000 feet elevation. During recent years well cultivated examples have been exhibited from the collection of H. T. Pitt, Esq., who owns so many of these uncommon species. The spikes bear from three to five flowers, the sepals and petals olive-green, paler at the margin and spotted with red at the base; the petals somewhat paler and with more spots than the sepals; labellum oblong, three-lobed, the side lobes yellow, striped obliquely with broad red-brown bands, the middle lobe white with brown-purple streaks; between the side lobes are two raised white lines. Three garden-raised hybrids of it exist in C. Lowgrinum (Lowianum × tigrinum), C. Niobe (tigrinum × eburneo-Lowianum), and C. Insignigrinum (insigne × tigrinum).

THE GENUS COMPARETTIA.

THE chief character that distinguishes Comparettia from other genera is the slender spur, which is not a simple organ, but consists of three spurs, two being produced from the labellum, and one from the united base of the lateral sepals within which the two spurs of the labellum are hidden. Comparettias are dwarf plants, with short stems, leathery leaves, and lax racemes. They inhabit tropical America, and consequently require cultivation in a warm house. The genus commemorates Andreas Comparetti, Professor of Botany at Padua.

C. coccinea was described in 1838, and imported from Brazil, in 1837, by Messrs. Loddiges. Flowers an inch across vertically, sepals and petals light yellow bordered with orange-red, labellum three-lobed, the intermediate lobe bright scarlet.

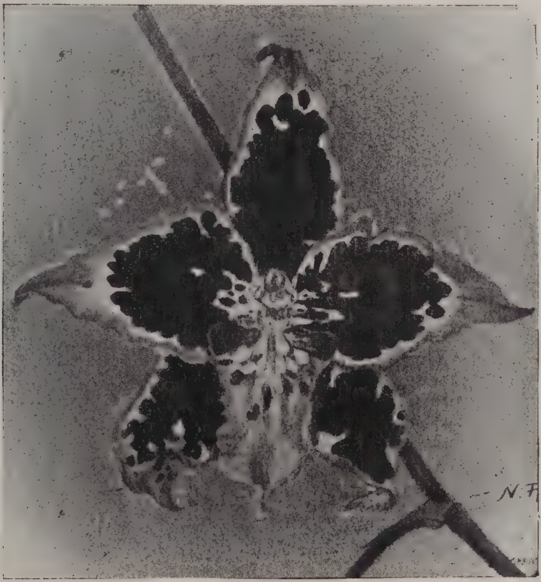
C. falcata, the type species of the genus, was described in 1835. The flowers measure about an inch in diameter, and are of purplish-red, almost crimson, colour. This species is said to be very particular as to the tree on which it grows. In Guatemala it is found on oaks and oranges, with but few exceptions; in other places it selects the Guava tree. The plants from Guatemala are generally small, producing short wiry scapes with only three to five flowers, but intensely coloured; from Colombia, plants have been obtained which produce strong panicles of 25-40 flowers.

C. macroplectron is the largest-flowered, but less brilliant in colour. It was discovered by Señor Triana, a Colombian botanist, and introduced by Messrs. Low & Co., in 1878. The scapes are slender, 18-24 inches long, dull crimson. Flowers nearly two inches across vertically, whitish, or rose tinted, spotted with purple, the blade of the labellum magenta-purple. The spur about two inches in length.

C. speciosa was described in 1878, having been discovered during the previous year on the eastern Cordillera of Ecuador by Edward Klaboch. It is chiefly distinguishable from C. falcata by its larger flowers of a different colour, and especially by its elongated spur. Flowers 1½ inches across vertically, bright orange-scarlet. Column short with two small wings; another white and beaked.

HYBRIDS OF ODONTOGLOSSUM EDWARDII.

DURING the period when blotched varieties of Odontoglossum crispum commanded high prices much attention was given to improving the size and colour of the flowers by careful breeding, and any material that seemed likely to bring about successful results was quickly utilised. As has more than once been pointed out, it is the small-flowering species which generally possess intensity of colour. With regard to the Odontoglossum genus, there exists in O. Edwardii a species which produces a many-flowered inflorescence, and although the individual flowers are only an inch in width, they are of intense purplish colour. Hybrids between this Ecuadorean species and the Colombian Odontoglossums have been produced in many primary and secondary crosses. The seed is comparatively easy to raise, and the young plants possess a vigorous constitution. Odontoglossum Lairessei (Cervantesii × Edwardii) was the first to flower. It was raised by M. de Lairese, of Liége, and described in the *Orchid Review*, vol. xiii., p. 81, with an illustration of a single flower. A few weeks later in the same year, 1905, the second hybrid of O. Edwardii appeared, and was recorded as O. Thompsonianum (Edwardii × crispum). Our illustration affords an opportunity of judging the colour arrangement. In O. Edwardii the purplish colour is evenly distributed throughout the entire flower, but in its hybrids there is generally a blotched condition. The outer area of each segment seen in our illustration is deep-rose, or magenta



ODONTOGLOSSUM THOMPSONIANUM.

rose, while the inner area is dark claret-purple, sometimes with a crimson tinge. The bright yellow crest on the labellum of O. Edwardii is strongly reproduced, while the general habit of the inflorescence is much longer than that of O. crispum. In O. Clytie (Edwardii × Pescatorei), the flower spikes are, generally speaking, of a branched nature, due to the effect of O. Pescatorei. Another early hybrid of O. Edwardii was seen in O. Aliciæ (Edwardii × crispo-Harryanum), figured in the *Orchid Review*, vol. xxvii., p. 141.

O. Edwardii in combination with Miltonias of the vexillaria section has yielded several attractive hybrids, the best known example being Odontonia brugensis (O. Edwardii × M. vexillaria), the flowers of which are larger than those produced in the pure Odontoglossum section, while the combination of the purplish colour of the one with the rose tint of the other has made Odontonia brugensis very popular. Not only has O. Edwardii been crossed with Cochlioda Nœzliana, but also with many of the Odontiodas, and a wide range of colour variation has thereby been produced.

O. Edwardii has been crossed with several of the Oncidiums, the resulting progeny being recorded uuder the name Odontocidium. Their number is at present about a dozen, the best known being Odontocidium Edwardatum (O. Edwardii × Oncidium serratum), with a many-flowered inflorescence, the prevailing colour being dark purple-rose.

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ODONTIODA *ZENA*.—One of the latest additions to the hybrids of Odontoglossum Edwardii was recorded last year in Odontioda *Zena*, the parents being O. Pescatorei and Odontioda Devossiana (Cochlioda Nœzliana × O. Edwardii). A very pretty example has recently flowered in the collection of George Wm. Bird, Esq., The Manor House, West Wickham, Kent. The inflorescence is branched, and follows closely the general habit of O. Edwardii hybrids. The flowers are rose-pink in colour, blotched and spotted with dark crimson-purple, while the bright yellowish crest in the centre of each flower renders the whole spike very decorative. Evidence of the O. Pescatorei parent is discernible in the pandurate formation of the labellum.

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PLATYCLINIS COBBIANA.—This pretty species, also known in gardens under the name Dendrochilum Cobbianum, was introduced from the Philippine Islands in 1879-80, by Messrs. Low & Co., through their collector Wm. Boxall. The flowers are pale straw-yellow with an orange-yellow lip, and are produced on slender spikes during the autumn months. It is best accommodated in shallow pans, using a fibrous compost, with a sufficient amount of spaghnum moss to maintain the requisite moisture, and placed in the Cattleya house, or other place having a high temperature.

AUCTION SALE CATALOGUES.

THE catalogue of Messrs. Protheroe & Morris' auction sale of July 31st, 1896, contains a list of "Extraordinary Mimical Orchids." An introductory note states that "Orchids have certainly the most beautiful, gorgeous, and yet at the same time fantastically-shaped blossoms of all known plants. Their special adaptations for fertilization by peculiar insects, and the remarkable resemblance they bear to totally different and, in many cases, almost incongruous objects render them worthy of the deepest study. The following plants have been selected as illustrating in a marked manner the peculiarly striking mimicry. In some cases the flowers in size and beauty are certainly not comparable to Cattleyas, Dendrobiums, etc., but in every plant herein mentioned the flowers afford the most absorbing and fascinating occupation possible in tracing the strange resemblances they bear, and the whimsical forms they assume."

The list of Orchids is as follows:—

The Fox-brush—Aërides Fieldingii. The Goat—Masdevallia Chimæra. The Parson in the Pulpit—Oncidium dasytyle. The Cradle—Anguloa Clowesi. The Bornean Jewel—Anœctochilus petola. The Moon—Aspasia lunata. The Carracas Helmet—Coryanthes macrantha. The Dandy—Catasetum scurra. The Sad Orchid—Cirrhæa tristis. The Bottle—Pleione lagenaria. The five-fingered Swan—Cycnoches petadactylon. The Bull's Mouth—Chysis aurea. The Window-bearing Orchid—Cryptophoranthus Dayanus. The Aloe-leaved Boat Orchid—Cymbidium aloifolium. The Rough-tongued Dendrobe—Dendrobium scabrilingue. The Old Man Dendrobe—Dendrobium senile. The Frog-bearing Orchid—Epidendrum raniferum. Lily of the Valley—Eria convallarioides. The Javan Star—Eria stellata. The Punch and Judy Orchid—Gongora atropurpurea. The Anchor—Masdevallia anchorifera. The Parrot—Masdevallia Psittacina. The Fire Orchid—Masdevallia ignea. The Pig Snout—Masdevallia porcelliceps. The Pug Nose—Masdevallia simula. The Painted Jaw Orchid—Maxilliaria picta. The Ecuador Moth—Miltonia Phalænopsis. The Trumpeter Goblin—Mormodes buccinator. The Cloud Orchid—Oncidium nubigenum. The Flying Dove—Palumbina candida. The Chinese Moth—Phalænopsis Esmeralda. The Stag-horn—Phalænopsis cornu-cervii. The Penguin—Catasetum Christyanum. The Andaman Moth—Phalænopsis speciosa. The Manilla Moth—Phalænopsis violacea. The Lizard-headed Orchid—Pleurothallis saurocephala.

The following lots in this sale consisted of Cattleya Warscewiczii (gigas), the gigantic purple-crimson type, of which C. Sanderiana is a form, and Cattleya aurea, the grandest form, represented by the incomparable C. aurea chrysotoxa, found growing together. "I hope," wrote the collector, "that you will receive this consignment in good order; it will consist of more than 2,000 plants (gigas imperialis and aurea). As I told you by my last letter, these boxes will leave here in order to catch the first steamer. These Cattleyas have been collected in the region where aurea and gigas come together. The white aurea and gigas of Señor Andreas were also found here; they have cost him heavy. My paeons have sketches stained on a smooth kind of bark, equal if not finer than Hardyana, Oweniana, Countess of Derby, and they were the least surprised when I showed drawings of these fine kinds, and remarked 'we have brought you finer than these in our baskets, Señor.'"

ANSWERS TO CORRESPONDENTS.

A FAR-DISTANT correspondent sends a sketch of a Cattleya showing the point at which he has severed the flower spike at the apex of the bulb, as is customary after the flower has faded. He enquires if the remainder of the "flower-stem" should be cut down to the roots, on a level with the surface of the compost. As there may be other amateurs who do not fully understand these plants, it may be useful to explain that the swollen stem supporting the leaf acts as a reservoir for storing the nutriment required in the production of the next season's growth. The removal of the swollen stem, or pseudo-bulb, as it is more generally called, would greatly diminish the plant's vigour; the plant would have to fall back upon one or more of the remaining bulbs of former years in order to recommence activity. The roots of a Cattleya are of no use by themselves, they quickly perish when deprived of the swollen stems. Each of these stems bears at its base two or three buds, and it is from one of these buds that the new season's growth is commenced. The new growth in its early stages is entirely dependent upon the food supply stored in the previously completed stem, or pseudo-bulb, and is not able to sustain a separate existence until it has new roots of its own, and which have entered the compost far enough to obtain sufficient nutriment. After a period of three or four years the pseudo-bulbs gradually lose their value, in proportion to the rate at which their food supply becomes exhausted. All pseudo-bulbs of about five and more years of age are best removed from the plant. If they can be removed with the old rhizome, or connecting link, so much the better, for a duplicate plant may frequently be obtained thereby.

DIFFERENCE BETWEEN A CATTLEYA AND A LÆLIA.—To all outward appearance members of the Cattleya genus do not show much difference from those of the Lælia genus. Botanically, they are rendered distinct by the number of the pollinia, which in Cattleya are arranged in a single series of four, but which in Lælia are in two series of four, or eight in all. In hybrids between the two genera, known as Læliocattleyas, much modification may be found, in accordance with the respective crossings. Lælia species are not so frequently cultivated as Cattleyas, which have several popular kinds in C. Mendelii, Mossieæ, labiata, and Schrœderæ. The Læliocattleyas are much more numerous, and prove very suitable subjects for cultivation on account of their usually robust constitution.

Cooling the Odontoglossum House.—A correspondent suggests that insufficient ventilation is generally afforded the Odontoglossum houses during the hottest period of the summer, and is of opinion that lower temperatures can be obtained by a much greater amount of ventilation than is usually given. Doubtless our correspondent is correct so far as the actual degrees of the thermometer are concerned, but increased ventilation generally means increased evaporation, and although the temperature may be reduced to something like that existing in the natural home of the Odontoglossums, it is most probable that insufficient moisture would remain in the atmosphere. In all these cases of extreme weather conditions, much discretion is needed on the part of the actual cultivator, and it is oftentimes better to have the atmosphere a little too warm, but sufficiently moist, than one which, although about right as far as the thermometer goes, is injuriously dry for the plants.

Orchids in Baskets.—The cultivation of Orchids in teak-wood baskets is not practised so frequently as in former days, perhaps on account of the greenhouses being now constructed with less interior space, and not admitting of suspended baskets. While the general series of plants grow well in pots and pans arranged on the staging, there are a few species which must be cultivated in baskets, for the reason that their flower spikes are pendulous, and sometimes are even forced through the mass of compost. "Kentish Amateur" will find that Stanhopeas need baskets with little or no crocks, so that the flower spikes may easily find their way through the compost in a downward direction. Other species, such as Cœlogyne Dayana, form their long and pendulous spikes over the surface of the compost, and then in downward style. Some of the Masdevallias, especially those of the Chimæra section, look best when placed in baskets, or in shallow pans suspended by wire from the rafters of the roof. Where space permits, a few Dendrobiums may be cultivated in baskets, more especially those with pendent stems, and of which D. Wardianum and D. primulinum may be given as examples. Another very similar plant requiring basket treatment exists in Dendrobium Falconeri.

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Corallorrhiza innata.—At the meeting of the Linnean Society, held June 11th, Miss M. Green, B.A., exhibited a living plant of Corallorrhiza innata from Northumberland, and also herbarium specimens.

HYBRIDS OF LÆLIA JONGHEANA.

SO much work has been accomplished by hybridists in the production of large flowers that it would be a welcome change to see interest directed to one or more of the other characters seen in flowers of the Lælia and Cattleya genera, and to follow the successive stages in the development thereof. With regard to the labellum, there are numerous instances in which the front area of this segment leaves nothing to be desired, for size, formation, and colour are all nearly perfect. But the actual throat portion of the labellum, consisting of the disc and tube, has not received the attention it seems to deserve, for usually it contains the bright yellow colour which makes a pleasing contrast to the mauve and purplish colours of the general area of the flower.

In Lælia Jongheana there exists a species in which the outstanding feature is the yellow colour of the disc and throat portion of the labellum. This area is rendered all the more distinct by the presence of several crenulate keels.

Læliocattleya Baroness Schröder (C. Trianæ × L. Jongheana), was raised in the collection of Baron Schröder, and first flowered in the year 1892. It has ever since been a favourite hybrid on account of the pleasing combination of the yellow area in the throat of each parental species, as well as in other details. When shown at the Royal Horticultural Society, August 23rd, 1892, a First-class Certificate was awarded. A similar recognition was given to the Westonbirt variety of this hybrid on April 2nd, 1907, and Awards of Merit to the variety delicata, also from the Westonbirt collection, on April 17th, 1906, and to the variety Madame Henriette, when shown by Count Joseph de Hemptinne on November 9th, 1909.

Læliocattleya Olivia (L. Jongheana × C. Schroederæ) is even more distinct as regards the yellow area, for the Cattleya parent is noted for the extensive area of this colour in the labellum segment. Læliocattleya *Zoe* (C. Schroederæ × Lc. Baroness Schröder) combines L. Jongheana with both C. Trianæ and C. Schroederæ ; it was raised in the Duke of Malborough's collection, and first flowered in 1919. Several other primary crosses of L. Jongheana and various Cattleyas have been recorded, while in the secondary hybrids of this species the characteristic features are less strongly defined.

Several pretty Lælia hybrids have also been obtained, as may be seen in the following examples: L. Gwennie (Jongheana × Cowanii), L. De Geestiana (Jongheana × flava), and L. Jessica (Coronet × Jongheana).

In some gardens the cultivation of L. Jongheana has been a matter of some difficulty, while in others it grows freely. It seems to succeed best in a temperature slightly lower than that of the Cattleya house.

CULTURAL NOTES.

A FEW Dendrobiums will also now have their pseudo-bulbs completed, and will soon demand cooler and more airy conditions. Dendrobiums are more impatient in this respect than Cattleyas, as are also Thunias, Pleiones, Cœlogynes, and other East Indian mountain species. Dendrobiums and Cattleyas are apt to break a second time the same year, that is to say they start a new growth immediately from the base of the newly formed pseudo-bulb. However careful one may be, a certain percentage of plants are almost sure to do this. Such new growths should be allowed to remain, but simply be unheeded, giving the plants the more airy treatment, as before advised, exactly the same as if no secondary growth existed. It is a great mistake to still keep the plants in an active temperature in order to bring these second growths to maturity, for it is unlike their natural condition abroad.

Cattleya Bowringiana is rapidly advancing its new growths and should be placed in a light position at the warmest end of the Cattleya House. Be careful not to over-water at this stage, especially during periods of dull weather, as excess of moisture at the root often causes the outer shields of the growth to turn black, and sometimes the base of the growth to decay. Shading, too, will often cause damping at the present season, if not carefully attended to.

The Mexican Lælias are now growing apace, and flower spikes on L. anceps are fast showing. It is now, above all other times, that water should be liberally supplied, especially after a hot day sun. It is best to get a bucket of tepid water about 4 or 5 o'clock in the afternoon, when the ventilation may be reduced, and with the aid of a syringe give them a thorough drenching overhead. L. anceps always grows and flowers more satisfactorily when no shading is employed, and the leaves are simply kept from burning by the admission of large quantities of air. There are but few species that will flourish and withstand the same treatment. L. majalis is another which delights in all the sunshine possible, and should be suspended close to the ventilator so as to assure plenty of air. The other Mexican species, such as L. autumnalis and L. albida, do not like so much strong sunshine, although both greatly appreciate the atmospheric conditions of the same department, therefore I always find it best to slightly shade them with a little summer cloud over the glass immediately above them. The same applies to L. furfuracea and L. Gouldiana.—*J. Mackay.*

Amongst the various pests in an Orchid house the common brown Ant is not the least. In some collections they render great havoc amongst the genus Phalænopsis by piercing the leaves, and causing a sweet watery matter to exude, upon which they feed, and so greatly is it relished by them that they very soon sap away the vitality of the plants, causing them to gradually dwindle away and die. Generally a few of the plants are attacked more severely than the others, and such may quickly be detected by the continual stream of these busy insects to and fro, and also by the edges of the leaves assuming a yellowish hue. Ants are also a great nuisance in many other respects, such as carrying dirt and scale about. Orchid seed in its various stages of germination is likewise greatly displaced and ruined by them, and altogether they are anything but desirable, and should be kept in check.

This principle of catering for the production of new pseudo-bulbs at the expense of the old should be well kept to the fore with all species of Orchids. All good cultivators fully realise the value of new vigorous growth for the production of healthy and handsome specimens. For example, you sometimes see an Orchid with only one or two leads occupying an enormous pot or basket large enough to accommodate probably a dozen of such leads. The reason of this is that the old pseudo-bulbs have been carefully preserved intact when repotting, which renders a large pot necesary, thus taking up much room, but producing no more flowers than a small pot with the same number of leads. I may say that the new growths are no stronger when backed by a long array of ancestors—in fact they frequently show unmistakable signs of degeneracy. The number of old pseudo-bulbs to leave per new growth may be a matter of opinion, and when advising on this matter I always prefer to be on the safe side by leaving one too many rather than one too few. An unhealthy, rootless and shrivelled specimen may be denuded of its old pseudo-bulbs with greater impunity than a strong healthy one.

The proper place for an Orchid to push new growth is from the base of the pseudo-bulbs; but supposing a very rare and valuable plant should meet with an accident, or by any means die at its base while the pseudo-bulbs above remain green, there is still hope to save it, and it should not be cast away until all life is gone, as sometimes small growths push from the sides and sometimes from the apex of the pseudo-bulb. I once remember seeing a plant of Lycaste Skinneri alba make a tiny bulb from the top of an old one, which afterwards grew into a nice plant. Of course these offshoots are very small, and a long time may elapse before they make a strong plant, but a little of a rare thing is better than losing it altogether.—*H. A. Burberry.*

Brassias are a little neglected in cultivation, and rarely does one see them represented very strongly. True, the flowers of some species are of a somewhat sombre hue, but there are others which are most striking, and always sure to attract attention, even if surrounded with flowers of more brilliant colours.

ODONTOGLOSSUM EXIMIUM VAR. GATTON TRIUMPH.

At the meeting of the Royal Horticultural Society, held on June 23rd, considerable interest was taken in Odontoglossum eximium var. Gatton Triumph, which received a Preliminary Commendation in recognition of its promising character. It had been raised in the collection of Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), the parents being O. crispum solum and O. ardentissimum var. J. Gurney Fowler.

O. crispum solum is a very distinct flower, as may be seen in a reproduced photograph in the *Orchid Review*, vol. xxiii., p. 180, the outstanding feature being the labellum, which is almost entirely of a crimson-claret colour, while circular blotches of similar colour occasionally appear on the sepals and petals. The second parent received a First-class Certificate at the Chelsea Show of 1916, and was recorded as O. ardentissimum var. J. Gurney Fowler (crispum solum × Pescatorei). This plant was sold to Mr. Gurney Fowler out of bloom, by description. Many seedlings were obtained from the seed-pot, but only one showed the character of the crispum solum parent.

With regard to O. eximium var. Gatton Triumph, obtained by crossing crispum solum with ardentissimum var. J. Gurney Fowler, this is the first seedling out of a batch of thirty which have so far flowered that inherits the distinctive coloration of crispum solum. The labellum is crimson coloured over almost its entire surface, the only exception being some yellow markings on the crest area. Occasional blotches of similar colour and circular in form are borne by the other segments, while a narrow zone of the same colour is seen at the extreme base of each sepal. The column is brownish-rose. This seedling carried a couple of flowers, and is certainly a "Gatton Triumph" for the colour is somewhat more intense, and brighter, than witnessed in O. crispum solum.

When O. crispum solum originally appeared among some imported plants, it was thought by some authorities that the peculiar colour character of the labellum owed its origin to hybrid influence, perhaps through O. Lindleyanum, but so far as can be ascertained from the seedlings which have flowered no reversion to O. Lindleyanum can be noted.

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Brassocattleya Alexanderi.—This interesting hybrid between Cattleya citrina and Brassavola Digbyana was raised by Mr. H. G. Alexander in the Westonbirt collection, and received an Award of Merit when exhibited at the Royal Horticultural Society on March 5th, 1907. The flower is somewhat pendulous on a long pedicel, fleshy, and light yellow in colour, the lip fringed.

YORKSHIRE FLOWER SHOW AND GALA.

ORCHIDS were again one of the leading features of the annual Yorkshire Flower Show and Gala, the staging devoted to them being 175 by 5 feet. Messrs. J. Cypher & Sons won the premier award for a table of Orchids arranged for effect, the second prize going to J. McCartney, Esq., and the third to Messrs. A. J. Keeling & Sons.

For twelve specimen Orchids in variety, Messrs. Cypher & Sons were first, their plants including fine examples of Læliocattleya Aphrodite, Lc. Dominiana, Lc. callistoglossa, and Thunia Marshalliana. The second prize was secured by J. McCartney, Esq., and the third by Messrs. A. J. Keeling & Sons.

In the class for six specimen Orchids, Messrs. Cypher & Sons were again placed first, the best plants being Brassocattleya Digbyano-Mossiæ, Odontoglossum amabile and Cypripedium bellatulum. Messrs. A. J. Keeling & Sons were placed second, and J. McCartney, Esq., third.

For three specimen Orchids, the first prize went to Messrs. A. J. Keeling & Sons, who staged Odontioda Madeline, Miltonia Bleuana, and Sophrolæliocattleya Helia. The second prize was given to Messrs. J. Cypher & Sons, and the third to J. McCartney, Esq.

For one specimen Orchid, Messrs. J. Cypher & Sons secured the first prize with Læliocattleya Canhamiana splendens, a fine form with five flowers, while Messrs. A. J. Keeling & Sons came second with Odontioda Colinge var. gloriosa, bearing a grand spike of 54 flowers.

In the classes restricted to amateurs, J. McCartney, Esq., achieved the highest awards, and in the non-competitive section, Messrs. Mansell & Hatcher were awarded a Gold Medal for a group of Miltonias in variety, Læliocattleyas, and Odontiodas.

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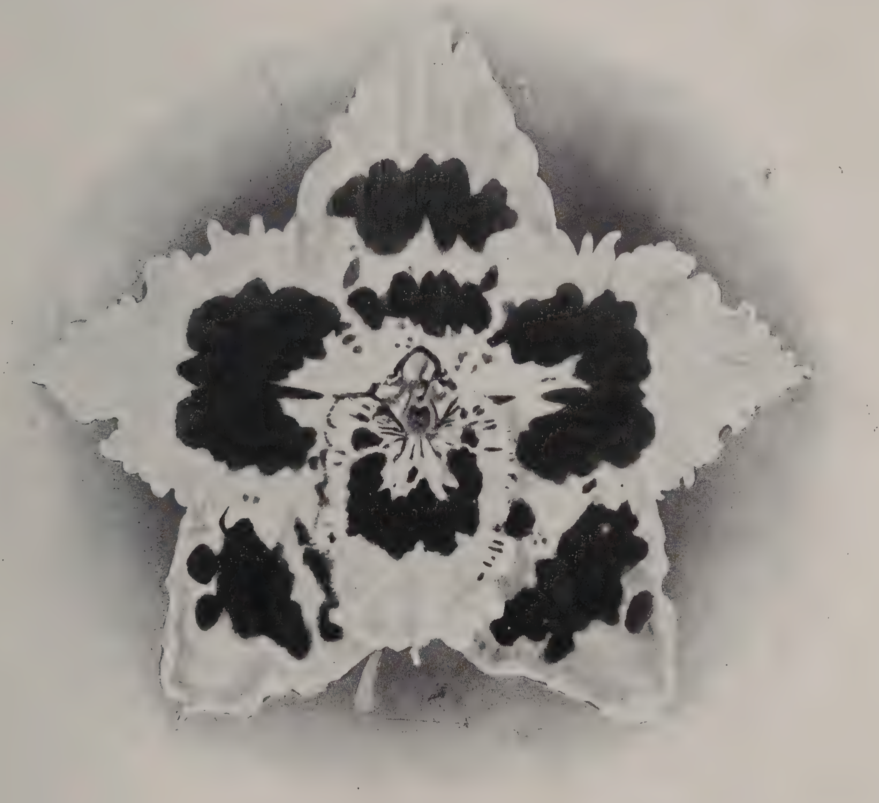
Dendrobium rhodostoma.—This is one of the rarest of Dendrobium hybrids, and on that account it was a pleasure to see it included in the group exhibited by H. T. Pitt, Esq., at the meeting of the Royal Horticultural Society on July 14th. It was obtained by Seden for Messrs. Veitch by crossing D. Huttonii with D. sanguinolentum, the first flowers being seen in 1876. The plant owned by Mr. H. T. Pitt has been in his collection for thirty years, which says much for the skilful attention given to the cultural details by Mr. Thurgood. D. rhodostoma bears flowers which appear to resemble more closely the sanguinolentum parent, being nearly white, the sepals tipped with purplish-crimson, the broader petals with a larger blotch at the tip, and the lip purplish-crimson with a yellowish-maroon disc. D. Huttonii was discovered in the Malayan Archipelago in 1868, and D. sanguinolentum was sent from Ceylon to England in 1842.

ODONTOGLOSSUM MRS. CARLISLE.

IT is not necessary to go back many years in order to ascertain the great advance that has been made in the production of large-flowering Odontoglossums. Whether the same rate of improvement can be maintained is somewhat uncertain, for there is an apparent limit beyond which we cannot expect to proceed, or only by very slow steps. In the Odontoglossum genus there are now many fine flowers having well-developed segments, far in excess of the original type as regards size, while the colour markings are generally displayed in symmetrical arrangement. Our illustration is of an artificially produced Odontoglossum of the crispum class, though not a pure crispum, for the blotches on the segments are derived from one or other of the allied species. There is good reason to believe that in future years we may see blotches of yellow colour, and perhaps of lilac and pink. There has been some talk of producing blue Odontoglossums, but at the present this seems beyond the powers of our most skilful hybridists.



ODONTOGLOSSUM MRS. CARLISLE.

NEW HYBRIDS.

Name.	Parentage.	Exhibitor.
Brassocattleya Elia	C. Jasper × Bc. Ilene	Black & Flory.
Brassocattleya Louisia	Bc. Mrs. J. Leemann × C. Schilleriana	Maron et Fils.
Brassocattleya Nora	C. Fabia × Bc. Ilene	Cowan & Co.
Brassolæliocattleya Luna	Lc. Rubens × B. Digbyana	,,
Cattleya Esther Waldegrave	Warscewiczii × Astron	Baron Schröder.
Cattleya Peregrina	Mossiæ × Percivaliana	Sander et Fils.
Cattleya Pompadour	Cecilia (Louis Chaton) × Mossiæ	Maron et Fils.
Cymbidium Faith	Lady Colman × Queen of Gatton	Sir J Colman.
Læliocattleya Beatrice de Herriard	C. Veiris × Lc. Ettrick	Mrs. B. Jervoise.
Læliocattleya Isenseeana	C Mendelii × L. lobata (Boothiana)	Paul Wolter.
Miltonioda Britannia	Miltonioda Harwoodii × Miltonia Bleuana	Charlesworth.
Odontioda Dante	Oda. Lakonia × Odm. St. James	,,
Odontioda Monica	Oda. Brewii × Oda. Lambeauiana	,,
Odontioda Nestor	Odm. Jasper × Oda. Hypatia	,,
Odontoglossum Cairnsianum	Cordoba × Eximillus	,,
Odontoglossum Lady Colman	Lambeauianum × V.C.	Sir J. Colman.
Odontoglossum Lambent	Lambeauianum × Lawrenceanum	Sanders.
Odontoglossum Maharanee	eximium × majesticum	,,
Odontoglossum Royal Ascot	Felicity × Georgius Rex	Charlesworth.
Odontoglossum Tom Ickringill	amabile × conspicuum	Mansell & Hatcher.

Cattleya Esther Waldegrave.—This novelty has been raised by Mr. J. E. Shill in the collection of Baron Bruno Schröder, Englefield Green, Surrey. The parents are C. Warscewiczii var. Firmin Lambeau and C. Astron, the latter being composed of white varieties of C. Loddigesii, C. Mossiæ and C. intermedia. The large flower is entirely pure-white, an interesting point, for some hybridists have stated that the above mentioned white variety of C. Warscewiczii sometimes produces coloured seedlings when mated with other white-flowering Cattleyas.

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The Summer Season.—Reports from various sources all indicate the beneficial effects which the past sunny weather has produced on Cattleyas, Lælias, and their various hybrids. Many of the plants have completed their season's growth, and with a little judicious ripening the bulbs will yield very satisfactory flowers. Especially is this the case with regard to Cattleya Warscewiczii (C. gigas), which delights more than most species in warmth and bright light. Spikes with four and five flowers are plentiful, and this is above the average number for English grown plants. In the United States, where the light is generally stronger, such results are fairly common. Considerable difficulty has in many cases been experienced in keeping the Odontoglossum houses sufficiently cool, for with shade temperatures above eighty it is impossible to keep the interior as cool as these plants would like. During the early autumn, there are usually many favourable opportunities for admitting plenty of ventilation, without creating too much dryness, and it is this freedom of outside air that brings about a healthy and stimulating effect upon the cool-growing plants.

CATTLEYA WARSCEWICZII.

AS this is the flowering season of Cattleya Warscewiczii a few remarks concerning its history will not be out of place. To many amateurs this species is known as C. gigas, which, however, is not the earliest name.

C. Warscewiczii was originally discovered about the year 1848 or 1849, by Warscewicz, in the province of Medellin, Colombia. The greater part of his collection was, however, unfortunately lost by the breaking down of the vessel in which it was being conveyed down the river Magdalena, and the few plants that were saved subsequently died. Herbarium specimens were preserved, and from these the species was described in 1854.

For some time afterwards the species seems to have been almost lost sight of, but it was re-discovered by Wallis, in 1868, when travelling from Medellin to Frontino, and plants were sent to M. Linden, of Brussels, in whose establishment one or more of them flowered in 1873, possibly the first occasion in Europe. It was then that the name Cattleya gigas was given to this species.

In 1870, or the following year, Rœzl was sent to collect plants for M. Linden, and many were found at Amalfi, more than eighty miles from Frontino, on the other side of the Cauca Valley.

The Medellin plant has the reputation of being a shy bloomer, while the Frontino plant flowers much more freely, and has frequently been referred to as Cattleya imperialis. Another free-flowering type, named C. Sanderiana, was discovered in a new locality on the mountains to the east of the Magdalena River, by one of Messrs. Sanders' collectors, and became prominent in collections about the year 1882.

Although many beautiful varieties have from time to time been flowered and described, the one known as C. Warscewiczii var. F. M. Beyrodt stands out prominently on account of its pure-white sepals and petals, and bright purple labellum. It has led to the production of numerous hybrids having similar character, while its vigorous constitution has also been inherited. No better example need be given in support of this statement than Læliocattleya Hassallii, with its pure-white sepals and petals, and immense labellum of rich purple colour.

More than one variety having all the segments pure-white has been recorded, but the popular one of to-day is C. Warscewiczii var. Firmin Lambeau, which was first exhibited by Messrs. Lager & Hurrell, Summit, N.J., U.S.A., at the Boston Show, March 26th, 1910, having been imported in the previous year. It was purchased by Messrs. Stuart Low & Co., and subsequently passed into the collection of M. Firmin Lambeau, Brussels, who exhibited it at the Royal Horticultural Society's meeting on July 16th, 1912, when it received a first-class Certificate and a Gold Medal.

PHAIUS HUMBLOTII.

On page 202 of our last issue, reference was made to Mr. Leon Humblot and the consignments of Orchids received from him when collecting in Madagascar. Phaius Humblotii was discovered by this French traveller when exploring the interior of Madagascar in 1879-80. Reichenbach described it as a most remarkable and unexpected novelty, and it was considered as the finest addition to the Madagascan Orchids since the discovery of Angræcum sesquipedale.

The plicate leaves are about 18 inches long, narrowed below into channelled and winged foot-stalks. The scapes as long as the leaves, sometimes longer, and bearing 7-10 flowers. The individual flowers are two inches in diameter, light rose-purple suffused with white, the labellum having the lateral lobes reddish-brown passing into crimson at the margin, the front lobe rose-purple with a whitish centre, on which are two large bright yellow teeth pointing inwards. The column is bent like a swan's neck and tinged with green.

The plants should be re-potted in the spring when commencing their new growth in a compost of fibrous loam, and a small quantity of rough fibre and sphagnum moss. As the plants delight in frequent waterings during the growing season, ample drainage should be provided. During the resting season only sufficient water should be applied to keep the compost moist. A warm house is necessary, with ample atmospheric moisture, and sufficient shade to prevent the foliage from being scorched.

About twenty different hybrids have been raised with various species of Phaius, those containing P. Humblotii in the parentage being as follows: P. Chapmanii (Humblotii × Phœbe), Cookson, 1903; P. Cooksoniæ (grandifolius × Humblotii), Cookson, 1895; P. Crawshawianus (assamicus × Humblotii), Charlesworth, 1903; P. Doris (Cooksoniæ × oakwoodiensis), Cookson, 1906; P. oakwoodiensis (Cooksonii × Humblotii), Cookson, 1900; P. Owenianus (Humblotii × bicolor), Sanders, 1894; P. Phœbe (Humblotii × Sanderianus), Cookson, 1902; and P. Wiganianus (Humblotii × Owenianus), Wigan, 1903.

Several attractive hybrids have also been produced by crossing representatives of the genera Phaius and Calanthe, examples of which occur in Phaiocalanthe Berryana (C. Masuca × P. Humblotii), Sanders, 1896, and about ten others. Although the species are of greater interest to botanists, the hybrids possess a somewhat stronger constitution which renders them more adaptable to artificial cultivation.

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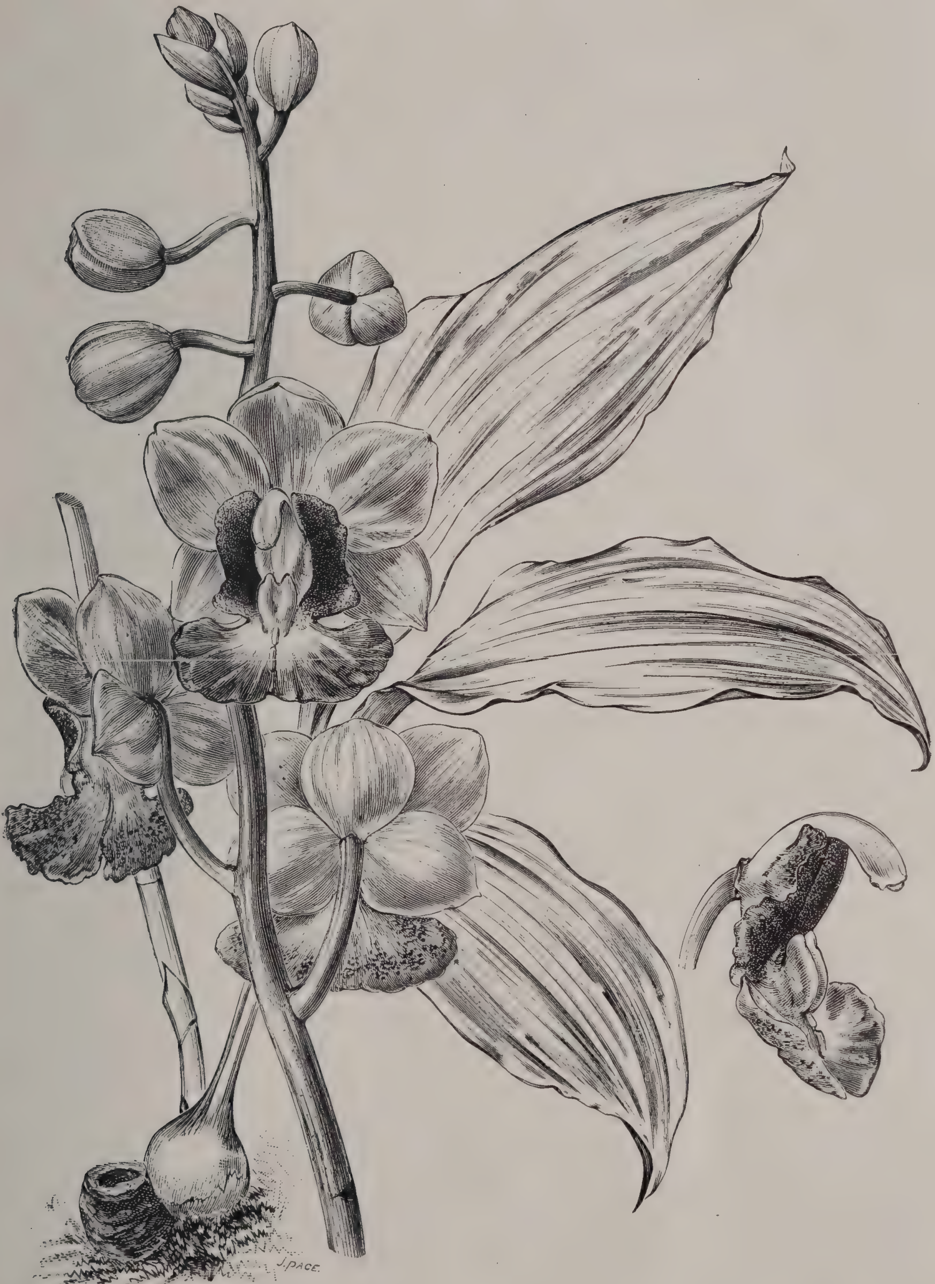
Royal Horticultural Society.—Meetings will be held on August 11th and 25th, and September 8th.



PHAIUS HUMBLOTII.

ERIOPSIS BILOBA AND E. RUTIDOBULBON.

THE genus Eriopsis is a South American one, and contains but a few species. The essentially distinguishing characters are the peculiar lamellæ of the lip and the almost quadrangular gland of the pollinary apparatus. Both E. biloba and E. rutidobulbon occur at a considerable elevation on the Cordilleras of S. America, and under cultivation an even temperature throughout the year is desirable. During the winter months a place in the intermediate house will be found suitable, and in the summer time the coolest end of the Cattleya house, or the warmest end of the Odontoglossum house.

E. biloba is the species upon which Lindley founded the genus. The specimen was sent to him by Mr. J. Blandy, of Reading, who had acquired the collection of Mr. George Barker, of Birmingham, shortly after that amateur's death, in 1845. The pseudo-bulbs are 2-5 inches high, leaves 2-9 inches long, spikes about 20 inches long. The flowers are generally just over an inch across, the sepals and petals tawny-yellow bordered with red-brown, the lip concave, yellowish-white, spotted with purple-brown, and the column clavate, light green.

E. rutidobulbon was introduced to Kew in 1849 by Purdie, who found it growing on the stem of a Palm tree in the temperate region of Antioquia, in North Colombia, at an elevation of about 4,500 feet. Purdie remarked that it is very rare in the region in which he travelled, and he succeeded in bringing home but one plant. The habit of the plant is somewhat like that of Lycaste, except that the bulbs are wrinkled. Spikes are produced up to 30 inches in height, bearing numerous flowers, which measure 1½-2 inches in diameter, the sepals and petals orange-yellow, shaded with red-purple at the margin, the lip obtusely spurred at the base, the front lobe white, dotted with dark purple, and the column semi-terete, greenish. It is figured in *Pescatorea* (t. 20) under the erroneous name of E. biloba. In the *Orchid Album* (t. 377) it is figured from a specimen which flowered in the collection of Sir Trevor Lawrence. The accompanying note states that it should be re-potted just as the young growths begin to appear, and that the plant requires to be thoroughly established before it can be induced to flower, but when it becomes vigorous it blooms annually.

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PHAIUS MACULATUS.—This is a native of the lower ranges of the Himalayas, where it was discovered by Wallich. Its specific name alludes to the vegetative organs rather than to the flowers, for the leaves are spotted with ivory-white. For a compost, a mixture of light loam and fibre, with the addition of some sphagnum moss, proves suitable. A liberal supply of water should be given during the growing season.

SYMBIOTIC GERMINATION OF ORCHID SEEDS.

THE June issue of the *Botanical Gazette* (vol. lxxix., pp. 345-379) contains a paper by Prof. Lewis Knudson entitled a "Physiological Study of the Symbiotic Germination of Orchid Seeds." In the Introduction the author states that all who have studied the germination of Orchid seeds agree that there is something very unusual about the seeds of most Orchids, for they cannot germinate when merely supplied with water and nutrient salts. With respect to the relation of the endophytic fungus to germination, the questions that arose directly from a consideration of the problems are given as follows:—

Does the fungus change starch to sugar? Is there any secretion by the fungus? Are the embryos that continue to grow always invaded? Are the embryos ever killed by the fungus? Is there any relation between the time of infection and the degree of injury or rate of germination? Are the external changes induced by the organism sufficient to produce germination? Are there any other fungi capable of inducing germination? Is there any change in the "activity" of the fungus when grown under pure culture conditions? Is the fungus equally effective in inducing germination under conditions of varying concentration of starch? Why is germination of Cattleya not possible with the fungus from Odontoglossum?

Mr. Knudson states that the evidence presented by these and various other experiments leads to but one conclusion, which is that the fungus is not necessary for germination, at least for seeds of Cattleya. Detailed accounts are given of thirteen experiments, and in summarising them it is noted among other points that "the fungus may permit of complete germination or may kill every seed in the culture. One of the factors which controls the degree of infection is the concentration of starch used. This means, of course, that ultimately it is the concentration of sugar. In the culture medium containing starch in which germination occurs when the fungus is present, the following changes occur. The starch finally is completely digested, and sugar is produced. The hydrogeni on concentration is changed from a value which is unfavourable for growth to one which is favourable. These external changes are sufficient to bring about germination. Germination may be effected by the fungus, even though no seeds are infected. In determining the effect of the fungi isolated from Cattleya, Epipactis, and Cypripedium on seeds of Odontoglossum, it was found that these fungi were extremely pathogenic, and practically every seed was killed. Without the fungus the seeds turned green and were still living after six months, with sugar supplied, the seeds germinated."

Further investigations on the photosynthetic and food relationships of Orchid embryos are awaited with interest.

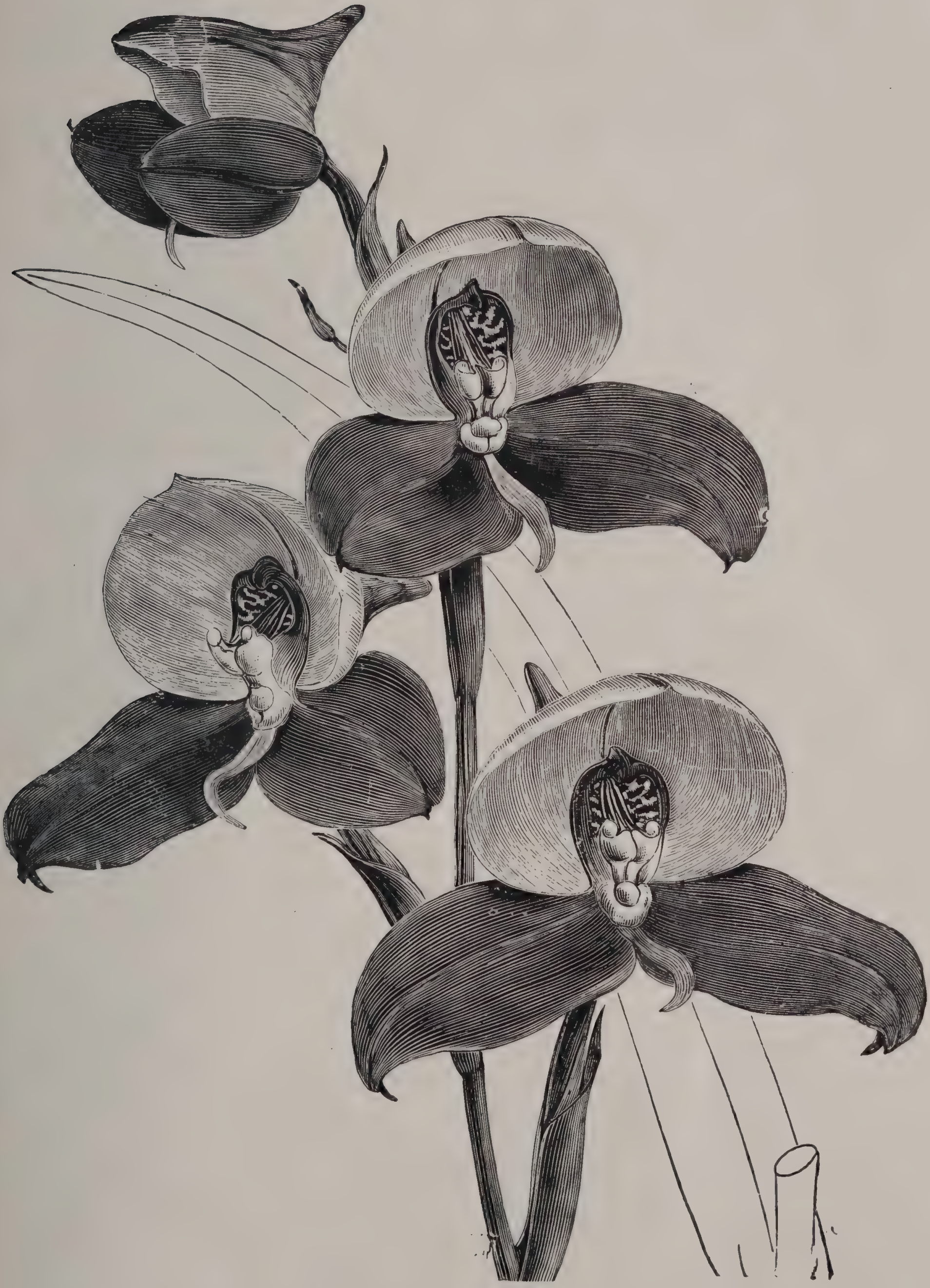
DISA VEITCHII.

THE chief characteristic of the Disa genus is the comparative insignificance of the labellum. As may be seen in the accompanying illustration of Disa Veitchii, the labellum takes the form of a narrow tongue-like organ, while the dorsal sepal is hood-shaped, and, at first sight, gives one the impression of being the labellum. The two petals are scarcely noticeable, being incurved and included within the hood-shaped dorsal sepal. D. Veitchii results from the crossing of D. racemosa with D. grandiflora, and first flowered in June, 1891. Disa seedlings reach maturity in a short period; the present example came into flower only twenty-one months after the sowing of the seed. The flowers of this hybrid vary in colour from bright rose-pink to purplish-rose, the petals yellowish, spotted with crimson.

D. racemosa, the seed-bearing parent, is found in moist grassy places on the eastern side of Table Mountain, flowering during the months of December and January. The colour of the flowers is a beautiful rose, with darker, fine veins, the front edges of the petals crimson or purple, their inner surface yellow, with purple stripes. The raceme distantly 4-9 flowered.

D. grandiflora, the pollen parent, has an earlier name in D. uniflora. It is also a native of Table Mountain. Owing to the quantities of tubers annually exported to Europe its extermination was at one time feared, but the Government intervened and restricted the collecting of this beautiful plant, known to many people as the "Pride of Table Mountain." The raceme is laxly 1-2, rarely 3-flowered. The colour of the side sepals is a brilliant carmine, the remaining part blush coloured, with delicate carmine veins on the inside of the back sepal, and bright orange tints on the upper part of the petals. A variety found near Du Toits' Kloof has the sepals and galea tinged with orange.

Disas delight in a cool, crisp, and moist atmosphere. Anything in the way of a close, stuffy house will prove disastrous. They have been cultivated successfully under somewhat similar conditions to those adopted for Odontoglossum crispum, and in more than one garden excellent results have been obtained by placing the plants in cool frames during the summer months. No drying off of the tubers is required during the winter months, and re-potting is best accomplished during the months of September and February. A uniformly low temperature is necessary, and a word of warning is perhaps necessary to maintain a careful watch for thrips, which are particularly fond of Disas. The plants must not be fumigated, or the foliage will be damaged. Spraying with a suitable insecticide is advised, taking care that the solution is not too strong.



DISA VEITCHII.

ROYAL HORTICULTURAL SOCIETY.

THE Amateur Flower Show, arranged by the Royal Horticultural Society, was held at Vincent Square, Westminster, on June 30th and July 1st. The Orchid Committee did not meet on this occasion.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), was awarded a Gold Medal for an excellent exhibit, in which the back portion was composed of well-grown plants of Thunia gattonensis. In the centre were Læliocattleya Canhamiana alba, bearing seven flowers, white, with a rose-coloured labellum, and Læliocattleya Martinettii, with four pretty flowers, cream-coloured, the labellum purplish, veined with a darker tint. Among the Miltonias were specimens of vexillaria var. Empress Augusta, the latter carrying four spikes of rose-coloured flowers. Cattleya species were seen in Mossiæ var. Queen Alexandra, Mendelii, with three handsome flowers, Mendelii leucoglossa, with a couple of flowers of light blush tint, and Mendelii delicata. Cypripediums included Curtisii Sanderæ, bearing four greenish flowers, Lawrenceanum Hyeanum, with a similar number, Chamberlainianum, and Godefroyæ leucochilum, a fine variety of deep yellow colour, the sepals and petals heavily marked with maroon colour. An interesting plant was Physosiphon Loddigesii, bearing over a hundred spikes of minute greenish flowers. Masdevallia muscosa, Bulbophyllum Lobbii, and several blotched Odontoglossums were effectively arranged, while Eria ornata, with three inflorescences in which the bracts are more coloured than the flowers, attracted much attention.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. (gr. Mr. Thurgood), was awarded a Silver-gilt Banksian Medal for an effective group containing 16 excellent plants of Thunia Veitchii, Bensoniæ, and Marshalliana, which made a pleasing background. Miltonias were strongly represented, the best being Bleuana, with crimson-flushed petals, Isabel Sander, Rœzlii, and William Pitt, the latter of rose colour with darker markings. Cypripedium Stonei occupied a central position, and other representatives of the genus were seen in barbatum, with four dark flowers, glaucophyllum, St. Albans, Godefroyæ, and concolor Sanderæ. A pretty effect was given by Oncidium Gardneri, with four many-flowered spikes of bright yellow and brown coloring. Odontoglossum crispum xanthotes, white, with light yellow spotting, and O. excellens, with golden blotching, made a pleasing contrast to the purple-spotted Odontoglossums, of which there were several fine examples. Cattleya Mendelii, having the petals flushed with purple, and Cattleya Hesta, white, with a purplish labellum, stood out prominently. Cattleya citrina and Vanda Miss Agnes Joacquim were also included, while Cymbidium tigrinum and Masdevallia muscosa occupied places in the front row.

In the class for twelve Orchids H. T. Pitt, Esq., was placed first, his specimens including Gongora atropurpurea, with six pendulous spikes, Cattleya Trevella, Miltonia Hyeana, Odontoglossum crispum, a fine unspotted variety with two spikes bearing 13 and 12 flowers respectively, O. Wilckeanum aureum, Sophrolæliocattleya Anzac, with flowers of soft crimson-rose, Odontonia Corona, with a spike of nine flowers, and Phalænopsis Rimestadiana, which was included in this amateur's exhibit at the Chelsea Show.

In the class for six Orchids the first prize went to A. T. Sutton, Esq., Oldfield House, Ditchling, Hassocks. These plants were in excellent condition, and comprised Miltonia vexillaria candida, Miltonia Charlesworthii, Læliocattleya Gretal, with five flowers, the labellum prettily formed and of purple colour, Odontioda Lutetia, with three many-flowered spikes of orange colour Odontoglossum Orosius, with a spike of 17 large flowers, blotched with reddish-purple, and Epidendrum vitellinum. The Silver Cup offered by the proprietors of *Amateur Gardening*, was won by this exhibitor.

The second prize for the class of six Orchids was won by A. M. Gentle, Esq., The Capstone, St. Albans, who staged Anguloa Clowesii, a finely grown plant, Miltonia vexillaria albens, very pleasing, Læliocattleya Australia, with bronze-red segments, Lc. Teucra, with a couple of large flowers, Lc. Canhamiana, of rose-purple, and with a darker labellum, as well as Lycaste aromatica, a vigorous plant bearing eight flowers.

July 14th, 1925.

Members of the Orchid Committee present: Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), T. Armstrong, John Cowan, J. Wilson Potter, H. H. Smith, J. E. Shill, H. G. Alexander, S. W. Flory, H. T. Pitt, F. J. Hanbury and F. K. Sander.

Award of Merit.

Diplomeris hirsuta, a charming species from Sikkim, where it grows in the valley of the Teesta, at an elevation of about 1,200 feet, on sandstone rocks. It is a comparatively small terrestrial plant, with a globose tuber, and of short stature. The flower is pure-white, about an inch and a half across, the long spur funnel-shaped at the mouth, otherwise cylindric. It is the Diplochilus hirsuta of Lindley, the specific name being in reference to the stiff scattered hairs on both surfaces of the leaves.

Cultural Commendations.

To Mr. F. W. Thurgood, Orchid grower to H. T. Pitt, Esq., for Platyclinis filiformis (Dendrochilum filiforme), of which four finely cultivated plants were exhibited, the best with 31 pendulous spikes.

To Mr. F. W. Thurgood, Orchid grower to H. T. Pitt, Esq., for Odontioda Thiasa var. Golden Goddess, a superb example with a spike of 32 fleshy flowers of thick texture, the segments marked with bright red.

To Mr. S. Lyne, Orchid grower to J. J. Bolton, Esq., Claygate, Surrey, for Brassolæliocattleya Jupiter var. Mrs. Stewart, a large plant with finely produced bulbs and bearing four immense flowers.

GROUPS AND OTHER EXHIBITS.

J. J. Bolton, Esq., Claygate, Surrey (gr. Mr. S. Lyne), was awarded a Silver-gilt Banksian Medal for a beautiful exhibit of finely grown Odontoglossums and Odontiodas. Among the former were the Claygate Lodge variety of O. Faustina, with roundly formed flowers, O. Gorizia var. Imperial Purple, with eight large flowers having light purple markings, O. President Poincaré, with a similar number of flowers, the segments broadly developed and with claret-purple blotching, also O. Princess Yolande, and O. crispum. The Odontiodas included Odo. magna rubra, with a beautiful spike of 16 flowers of scarlet-red colour, and to which a F.C.C. was awarded in 1921. Cattleya majestica had uniform rose-coloured flowers, and C. Warscewiczii a spike of four large flowers of rosy-mauve colour. In the centre was a superb example of Brassolæliocattleya Jupiter.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. (gr. Mr. Thurgood), received a Silver-gilt Banksian Medal for an effective exhibit containing four specimen plants of Platyclinis filiformis, with a total of 147 pendulous spikes, the golden-yellow colour being very pleasing. Cypripedium glaucophyllum bore four flowers, and there were examples of C. concolor, Maudiæ, Enchantress, and Lawrebel. A pretty Cattleya was seen in Eleanore, with cream coloured sepals and petals, the labellum rose coloured, while Miltonioda Harwoodii carried flowers of soft scarlet-rose tints. Among the species were Phalænopsis Rimestadiana, with large flowers, Oncidium Gardneri, the scarce Cymbidium tigrinum, Epidendrum organense, and Aërides odoratum. Vuylstekeara Jos. Charlesworth, with flowers of deep crimson colour, as well as several excellent Miltonia hybrids stood out prominently.

Messrs. Sanders, St. Albans, received a Silver-gilt Banksian Medal for a interesting exhibit in the centre of which was Epidendrum Parkinsonianum, a large plant with eight flowers, on each side were Cypripedium species and hybrids, including Curtisii Sanderæ, and Godefroyæ var. Joy Sander, with cream coloured flowers almost without the usual maroon coloured markings. Along the back row were Vanda tricolor, with richly coloured flowers, and several examples of Odontoglossum Williamsianum and Phalænopsis Rimestadiana. Brassolæliocattleya Plumion, golden, with crimson stained lip, proved an attraction, as also did Odontoglossum amabile var. Everest, with seven large white flowers having an occasional violet blotch. Gongora bufonia, with curiously formed flowers, Angulocaste Joiceyi, and several Masdevallias were also noted.

Messrs. Black & Flory, Slough, exhibited Miltonia Beau Brummel (Bleuana × Venus), a pretty flower of rose tint and with lines of darker colour on the labellum; and M. Viola, a promising seedling obtained by crossing M. vexillaria var. G. D. Owen with Bleuana. Another plant worthy of mention was Brassocattleya Elia (C. Jasper × Bc. Ilene), the sepals of terra cotta colour, the petals similar, but tinged on the surface with rose, and the labellum purplish.

◆

MANCHESTER ORCHID SOCIETY.

June 19th, 1925.

MEMBERS of the Committee present: Capt. Wm. Horridge (in the Chair), Messrs. A. Burns, A. Coningsby, D. A. Cowan, J. Cypher, A. G. Ellwood, J. Evans, G. Giles, E. W. Thompson and H. Arthur (Secretary). Mr. J. Thrower was invited to sit with the Committee.

FIRST-CLASS CERTIFICATE.

Odontoglossum crispum var. Pearl McBean, a well-formed flower, white, with fimbriated segments; from Mrs. Gratrix.

AWARDS OF MERIT.

Cattleya Mendelii var. Duchess of York; from Mrs. Gratrix.

Odontoglossum Joyce II (President Poincaré × Georgius Rex); from A. Hanmer, Esq.

GROUPS AND OTHER EXHIBITS.

Silver-gilt Medals were awarded to S. Gratrix, Esq., for an exhibit of Odontoglossums in great variety, and to A. Hanmer, Esq., for a group of Odontoglossums and other Orchids.

Messrs. Sanders staged various Læliocattleyas and the scarce Oncidium acrobotryum; Messrs. Charlesworth & Co., exhibited a fine variety of Odontoglossum crispum.

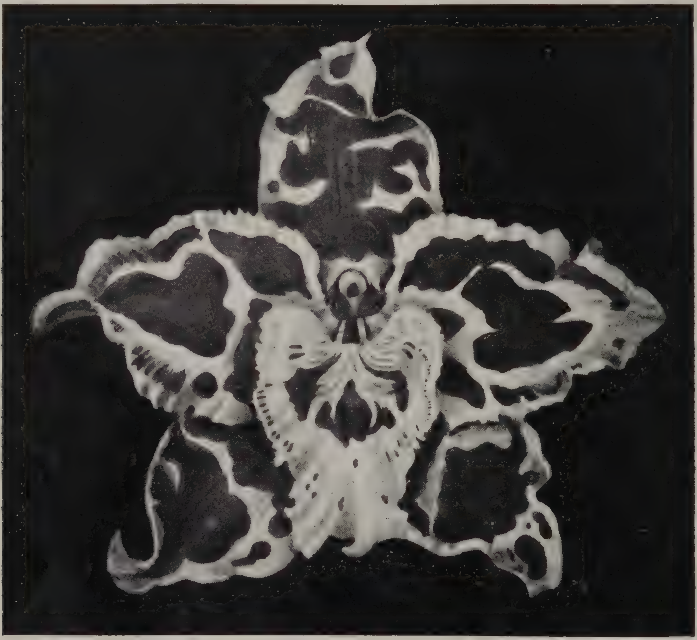
ANNUAL GENERAL MEETING.

At the Annual General Meeting, held June 19th, Capt. Wm. Horridge presiding, the report and balance sheet submitted were adopted. Capt. Wm. Horridge was re-elected as President. The executive comittee were unanimously re-appointed as follows: Capt. Wm. Horridge, Messrs. R. Ashworth, A. Burns, Rev. J. Crombleholme, J. Cypher, A. Hanmer, D. Losh Thorpe, and H. Arthur.

After discussion as to whether Thursday or Friday would be the most convenient day for the meetings, it was decided to test matters by holding shows on the first Thursday and first Friday in each month until the end of December, providing the Hall is available. The date of the first meeting was fixed for Thursday, July 23rd.

After discussion, it was decided that a plant having previously received a First-class Certificate and a medal being proposed, the voting shall be as follows: For a Gold Medal, No. 1 disc; Silver-gilt Medal, No. 2 disc; Silver-gilt Medal, No. 3 disc; the majority of votes to carry the award.

Prizes were presented to the successful exhibitors as follows: J. J. Bolton's prize to Mrs. Bruce and Miss Wrigley (gardener's prize to Mr. A. Burns); Sander's prize to A. Hanmer, Esq. (gardener's prize to Mr. G. Giles); Botanic Society of Manchester's Silver-gilt Medal to Mr. A. Burns, and Silver Medal to Mr. G. Giles; Charlesworth's prize to P. Smith, Esq. (gardener's prize to Mr. E. W. Thompson); Cowan's prize to S. Gratrix, Esq. (gardener's prize to Mr. C. Branch); Cypher's prize to Mrs. Bruce and Miss Wrigley (gardener's prize to Mr. A. Burns); Evan's prize to S. Gratrix, Esq., and Mrs. Gratrix's prize to A. Hanmer, Esq. (gardener's prize to Mr. G. Giles); Keeling's prize to Mrs. Gratrix (gardener's prize to Mr. C. Branch); A. Hanmer's prize to S. Gratrix, Esq. (gardener's prize to Mr. C. Branch); D. Losh Thorpe's prize to A. Hanmer, Esq. (gardener's prize to Mr. G. Giles); P. Smith's prizes to Mr. A. Burns, Mr. C. Branch and Mr. G. Giles.



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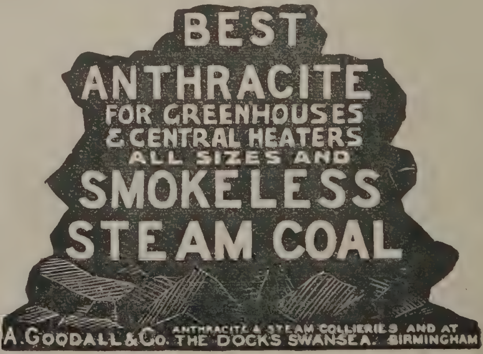

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THE ORCHID REVIEW.

VOL. XXXIII.] SEPTEMBER, 1925. [No. 387.

NOTES.

OBITUARY.—We regret to learn of the death of Mr. Thos. Godwin, of Sydney, New South Wales, who was one of the last of the older enthusiasts of Orchid culture in that locality. Mr. Godwin was trained in the Westonbirt collection, Tetbury, Glos., and had resided in Australia for the past forty years. He raised a large number of hybrids, and by his seedlings of Cymbidium eburneo-Lowianum he was the first to popularize the cultivation of Cymbidiums in the open air.

BRASSOLÆLIOCATTLEYA JUPITER.—Few other hybrids of Brassavola Digbyana have achieved such popularity as Brassolæliocattleya Jupiter, the result of crossing Blc. Veitchii (Bc. Digbyano-Mossiæ × L. purpurata) with C. armainvillierensis (Mendelii × Warscewiczii). It was raised in the establishment of Messrs. Cowan & Co., and recorded in 1920. A First-class Certificate was awarded to this hybrid when shown at the Royal Horticultural Society's meeting on June 7th, 1921. At the Chelsea Show of 1922 a variety called His Majesty received a similar certificate, while the variety Jarvisbrook was given an Award of Merit. The Manchester Orchid Society has also recognised its meritorious character. When shown at the American Orchid Society's Exhibition at Boston in 1924, a grand variety, bearing a spike of three large flowers, was awarded the Silver Cup offered for the finest Orchid in the Show.

THE CLEMENT-ARMSTRONG PROCESS OF SEED RAISING.—At the Chelsea Show in May last, Mr. Edward Clement exhibited some interesting results of his work in raising Orchid seed by asymbiotic methods. The genera Odontoglossum, Miltonia, and Cattleya were each represented by a dozen culture tubes containing numerous seedlings. At the following meeting of the Royal Horticultural Society, held June 9th, Mr. Clement attended the Scientific Committee in order to explain the main principles upon which he had been working, and the more recent results. On the unanimous recommendation of the Scientific Committee, the Royal Horticultural Society has awarded a Certificate of Appreciation to Mr.

Clement in recognition of his successful work in the raising of Orchid seed by asymbiotic methods. The seedlings, of which about 150,000 have already been raised, are being cultivated by Messrs. Armstrong & Brown, Tunbridge Wells.

ONCIDIUM SCHLIMII.—This species is very rarely seen in cultivation. It is a native of the eastern Cordillera of Colombia, where it was found near Ocaña by Linden in 1842 at 3,000 to 4,000 feet elevation. In later years it was collected by Schlim. It was described by Lindley in 1852 (*Paxt. Fl. Gard., II., p.* 168), and appears to have been first cultivated by Mr. Brocklehurst, of Macclesfield. Pseudo-bulbs ovoid, much compressed, with acute edges, and with two to three ribs on each of the flattened sides, diphyllous. The slender scapes are flexuose, four to five feet long and loosely paniculate. Flowers exceeding an inch in diameter, numerous; sepals and petals yellow, with red-brown blotches; labellum with two basal auricles and a two-lobed reniform blade, broadly clawed, yellow with a red-brown band around the crest. Lindley remarked that "its two-lobed column wings, with the lobes divaricating and tapering to fine points, and the rostrate stigma, mark it well."

SOBRALIA DICHOTOMA.—Lindley states in his *Folia Orchidacea* that "this is the finest of the genus, six to eight feet high according to Linden, from twelve to even twenty feet high, forming impenetrable thickets, according to Pöppig, with stems resembling those of Bamboos. The same author describes the flowers as being two inches long, white externally, violet internally; Linden calls them rose, sometimes whitish rose with a white and purple lip, or the whole deep red. They are fleshy like those of Cattleya guttata, and not very different in mode of expansion. The petals are much narrower than the lower sepals, obtuse, and apparently rather crisp. In my Bolivian specimen the lip is much more lacerated than in those from New Grenada. It is to be remarked that this, the original Sobralia, is unlike the plants now associated with it, in the sepals being very little if at all united into a long neck. According to Rchb. fil. the anther is panduriform. A specimen with curved fleshy fruit exists in the Fieldingian herbarium, from Pavon, marked 'Epidendrum aromaticum,' in allusion no doubt to the excessive fragrance of the flowers which Pöppig compares to Wallflowers. The Peruvians call it Flor del Paraiso."

ROYAL HORTICULTURAL SOCIETY.—The ordinary fortnightly meeting of the Society will be held on September 8th and 9th. The Great Autumn Show will be held at Holland Park Hall on September 22nd, 23rd and 24th. The Autumn Fruit Show will take place at Vincent Square, Westminster, on September 29th and 30th.

THE GENUS BIFRENARIA.

THE genus Bifrenaria differs from Maxillaria in having the pollen masses attached to the gland by a pair of distinct straps or caudicles, instead of one; the generic name was suggested from bi for bis, "twice," and frenum, "a strap or bridle." The plants are natives of Guiana and Brazil, and usually succeed well under artificial conditions. The majority are best grown in shallow pots, or pans, using a fibrous compost, and should receive warm-house treatment, with much moisture during the growing season, and protection from the bright sunlight.

Bifrenaria atropurpurea was introduced by Messrs. Loddiges from Rio de Janeiro in 1828, and is the species on which the genus was founded. The pseudo-bulbs are four-angled and bear a single leaf 6-10 inches long. Scapes 3-5 flowered. The individual flowers two inches in diameter when spread out. Sepals and petals dull claret-red with a yellowish stain in the centre; lip bright rose suffused with white; crest a thickish oblong plate obscurely toothed at the front margin. The flowers are fragrant.

B. aurantiaca is a native of British Guiana, whence it was introduced in 1835. The brothers Schomburgk found it along the banks of the Essequibo and Pomeroon rivers growing on the stems and branches of trees. Pseudo-bulbs ovoid, ribbed and spotted, bearing a single leaf 5-8 inches long. Scapes longer than the leaves. Flowers an inch in diameter, deep yellow spotted with orange.

B. bicornaria was described by Reichenbach in 1863 from a specimen which flowered in the collection of Consul Schiller, of Hamburg. The inflorescence is about a foot high, and the flowers are deep yellow strongly barred with brown. The side lobes of the lip are almost entirely of the latter colour, and may be described as wedge-shaped, with a crenulate apex.

B. Charlesworthii was introduced from the province of Minas Geræs, Brazil, by Messrs. Charlesworth, with whom it flowered in 1893. It is allied to B. racemosa, but has a hairy lip.

B. Fuerstenbergiana is a Brazilian species, introduced from Santa Catherina. It has yellowish-green flowers. Described and figured in *Orchis*, July, 1906.

B. Harrisoniæ is probably the most popular member of the genus. Scapes shorter than the leaves. The flowers fleshy, about three inches across, sepals and petals ivory-white, the lip hairy, vinous purple with darker purple veins, the crest very hairy. Several distinct varieties have been described. In the variety alba the sepals and petals are cream-white, the lip paler than in the typical form. The variety eburnea also has the sepals and petals ivory-white, but the lip yellow streaked with purple.

B. Harrisoniæ var. pubigera is a very distinct variety, originally described in 1855. The flowers are much smaller than in the type, the sepals have been described as wholly light plum-purple, and the petals much paler.

B. inodora resembles B. Harrisoniæ in general habit. The flowers are three inches across, the sepals apple-green, the petals smaller but brighter in colour, the lip white, yellow or dull rose colour. Of its early history we learn that it was imported from Rio de Janeiro in 1839, and added to Sir Charles Lemon's collection at Carclew, where it flowered in April, 1843.

B. melanopoda is a miniature species, with a tuft of angular pseudo-bulbs, ½in. to ¾in. high. The flowers have light green sepals and petals sometimes tinged with brown. It is more fully described in the *Orchid Review*, vol. xix, p. 67.

B. vitellina was originally imported from Brazil by Messrs. Loddiges, with whom it flowered in 1838. The pseudo-bulbs are clustered, four-angled, and with a single leaf. Scapes shorter than the leaves. Flowers an inch in diameter, orange-yellow with a maroon spot on the lip.

ONCIDIODA BRUCEÆ.

A MOST interesting bi-generic hybrid has just been received from Mrs. Marion Bruce, of Bridge Hall, Bury, who has obtained it from Oncidium Schlimii crossed with Cochlioda Nœzliana.

The Oncidium parent is very scarce in cultivation. Though not a large flowered species it is certainly pretty and remarkable for its distinct shape and bright colouring. The narrow undulated sepals and petals are yellow, but almost obscured by dark red-brown bars. The lip is long in proportion, roughly triangular in shape, but expanding into a spreading deeply cleft, creamy white front lobe. The triangular portion is deep purplish-red, shouldered by two rounded side lobes of bright yellow. The contrasting colours having a pleasing effect.

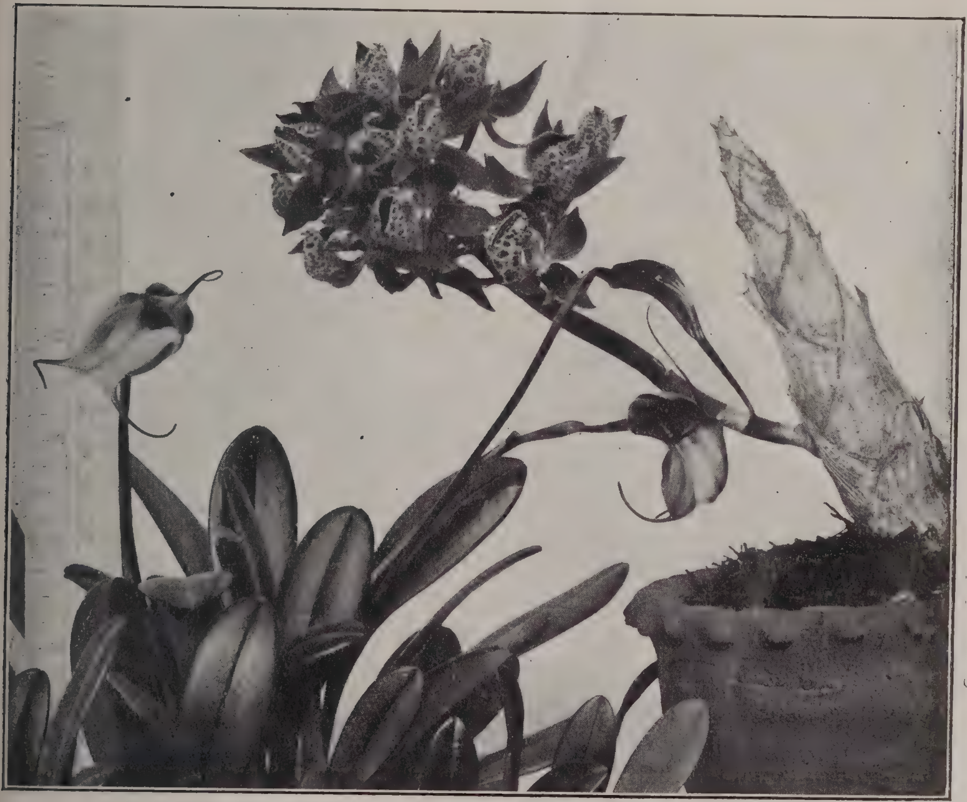
The influence of the Cochlioda parent, as may be expected, kills the darker colouring of the Oncidium, but that in turn changes the scarlet of the Cochlioda to a rich orange, flushed with red.

The individual flowers are over an inch across. The upper sepal and the petals broader than the two lateral segments, which are twisted and inclined downwards. The lip is not dissimilar to the Oncidium parent, the pronounced side lobes are clear yellow, but inclined downwards, and the expanded portion of the front lobe a lighter yellow. The winged and hooded column is also yellow. The inflorescence sent carried 9 flowers, but as the plant gains strength more flowers will probably be obtained on the spikes. Even now the hybrid is particularly pleasing by reason of its charming coloration of deep orange and yellow.

TWO COSTA RICAN RARITIES.

By C. H. LANKESTER.

MORMODES HOOKERI. The plant seen in the accompanying photograph was found in April, 1923, at Aguas Zarcas in the San Carlos Valley, growing in full sunshine on an old copper beech, one of a straggling bunch, abandoned years ago. As only the one day was spent in the locality the presumption as to its rarity may be unfair, no others, however, were seen. In October last another was found near the sea coast, in recently felled forest bordering the Parismina River; this example has not yet flowered. The brown velvet flowers, with deep recurved, mottled lip, sparsely covered with whitish hairs, render it very attractive. It is probably confined to the coastal plane. At higher elevations, 1,000 to 2,000, the inferior, but also scarce Mormodes buccinator appears, and at 3,000 to 6,000, M. colossus, with pure-brown or maroon flowers, is a much commoner plant. Apparently, Reichenbach's M. Wenlandii is simply a colour variant of it. Mormodes, Cycnoches, and, to a less extent, Catasetum are usually found on rotten wood.



MASDEVALLIA REICHENBACHIANA AND MORMODES HOOKERI.

Masdevallia Reichenbachiana. This plant, presented to the writer, came from the Estrella hills, south of Cartago, and although he knows the district well, fortune has heretofore denied him the pleasure of seeing it growing naturally. Of the genus, it is the largest and one of the finest of this territory, and is of easy cultivation. Several other species are found in the same locality. M. triaristella is notably abundant. M. astuta may be found, and the two tiny species, M. picturata and M. cyathogastra, are usually encountered. On wind-swept ridges, half hidden in deep beds of moss on the tree trunks, the quaint Scaphosepalum anchoriferum may be showing its pairs of buffalo horns.

Writing from Cartago, Costa Rica, Mr. C. H. Lankester says: "I am just off for a four days' trip on a new trail being cut to the south. It should strike Phragmopedilum (P. caudatum) country, and it galls me to think I have yet to see this species in its native haunt. If more time were available I should surely reach it, but this is scant allowance and most of it will be wasted on the trail itself. Odontoglossum chiriquense also should be found, though I did once find it, and have a piece still alive, but a flower spike has not yet appeared. This and similar things from cloud-swept forest are difficult to cultivate successfully out in developed country."

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Lycaste edinensis.—Some years ago a hybrid between Lycaste macrophylla and L. cruenta was raised in the Royal Botanic Gardens, Edinburgh, and has been distributed on various occasions to other collections. It has now been named Lycaste edinensis (macrophylla × cruenta), as no previous record seems to exist. From Mr. A. J. Munday we have received a flower of this novelty. In general appearance it is intermediate in character, measuring three inches across the lateral sepals, which are light green in colour. The semi-erect petals are yellowish-green, and the three-lobed labellum yellowish, with some darker colouring on the apex of each lobe. The column is whitish, hairy below the stigma, and with a small orange-yellow area at its extreme base.

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Maxillaria pulla.—This rare species was described in 1854, from specimens collected at Aspasica, in the province of Ocana, at 5,000 feet elevation. The plant has small globose slightly compressed pseudo-bulbs, about half an inch long, each with a single leaf five to nine inches long. The flower has been described as having the ground colour straw-yellow, with five light red-brown stripes on the sepals and petals, and eleven much darker ones on the nearly entire lip. The striped flowers give it a very distinct appearance.

CYMBIDIUM CULTURE.

By ARTHUR YATES, Sydney, New South Wales.

I HAVE just received the *Orchid Review* for May, and note an account of an experiment in Cymbidium culture reprinted from the official journal of the Massachusetts Horticultural Society. As these plants do well in the open air in favourable situations in our Sydney climate, the results of my experience may be of interest.

I first grew Cymbidium Lowianum and its hybrid C. eburneo-Lowianum in a cool greenhouse. The plants made good growth, but did not bloom satisfactorily. Since putting them in the open air, in a shady position, they have never failed me. This proves that they require any amount of air and cool shady conditions. We occasionally have light frosts in the winter without any injury occurring to these plants. The summers are changeable, hot and cool by turns, with a dry atmosphere, but under the conditions mentioned above, the Cymbidiums do well and have little attention, except a hosing two or three times a week. I have often wondered whether Cymbidiums would not succeed equally well in other countries if grown outside in the summer and brought into a greenhouse to protect them from frost during the cool season. I think the experiment worth trying, and although the regular Orchid enthusiast, who has special houses for each genus, might not think it worth while to move his plants, there must be many who have facilities for keeping Cymbidiums free from frost in the winter, and who could use the houses to grow vines, tomatoes, etc., in the summer. If successful, it would interest many amateurs in Orchid culture who would not attempt to keep special houses for the purpose.

At the present time I have a plant of Cymbidium Tracyanum in bloom with seven spikes of from eight to eleven flowers. From tip to tip it covers seven feet. I do not know if this is unusual. The plant was grown in a shady spot in the open air, and only brought under glass to protect it while blooming.

I have a good collection of the new hybrids, now throwing up their flower spikes. They are very healthy and are grown in a bush, or shade, house on benches. I give them occasional applications of weak liquid manure made from well rotted cow or horse dung. This seems to suit them, as they are rooting vigorously, but I should say their main requirements are fresh air, a cool shady situation, with only sufficient artificial heat to keep them free from frost.

In importing the above hybrids, I have unfortunately introduced a very bad form of scale. Should this get into my large specimen plants, which have so far been free of any pest, excepting snails and slugs at flowering time, it would be a calamity, owing to the impossibility of keeping them reasonably clean. I am thinking of treating all the affected plants with cyanide gas under a tent after they have flowered this coming spring. This method is largely used in this country in the citrous orchards. Trees so treated are cleaned of all scale, and keep free for two years or so. I am hoping I may be able to exterminate this scale before it spreads to my older plants, which fortunately have been kept in another place, and have not so far been affected.

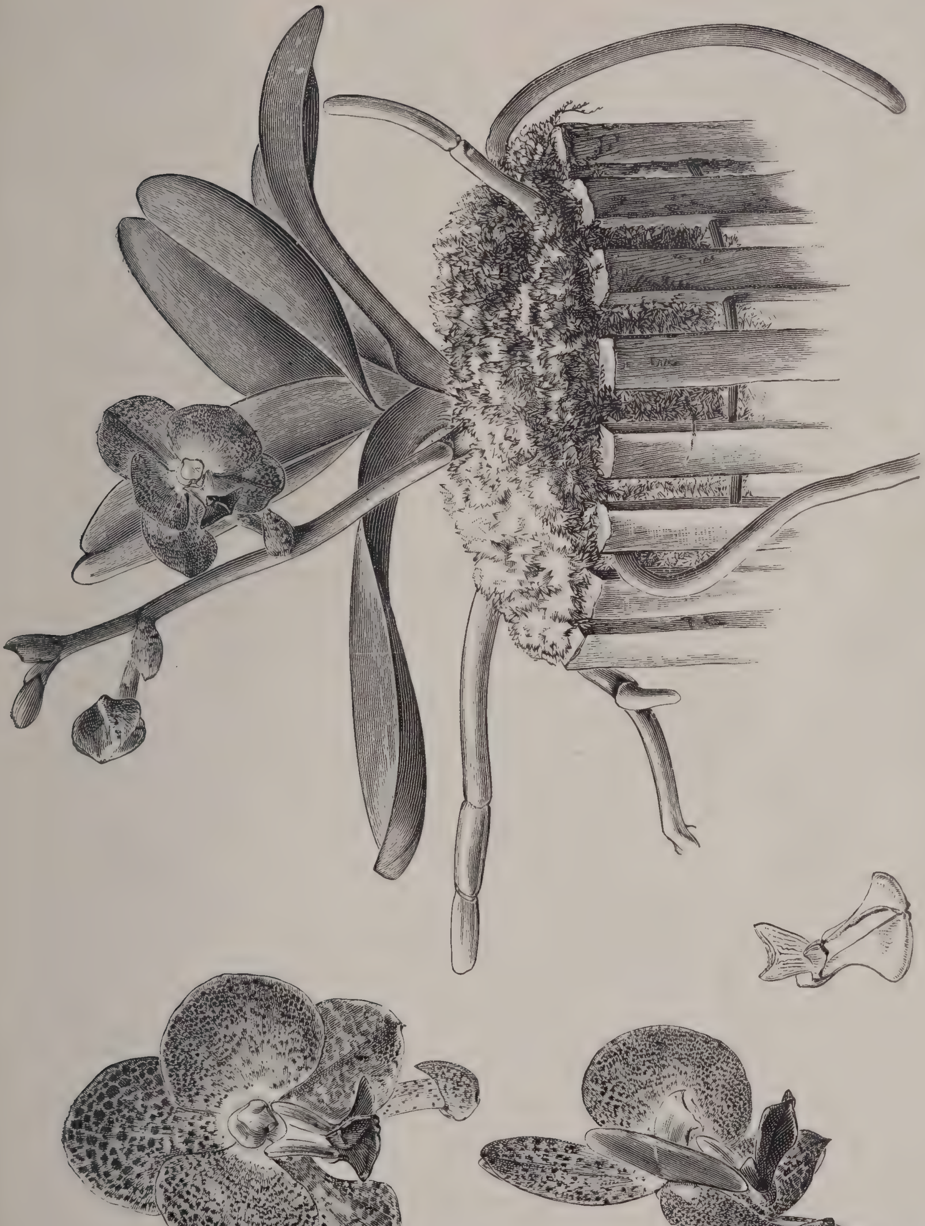
VANDA PARISHII.

This species was discovered in Moulmein, in 1862, by the Rev. C. S. Parish, and described by Reichenbach in 1867. In 1870 it was re-discovered and imported by Messrs. Low & Co., but has ever since been a rare plant in European gardens. The leaves are 6-9 inches long and 2-3 inches broad. The stout peduncle longer than the leaves, 7-10 flowered. The individual flowers are fleshy, about two inches in diameter, the sepals and petals yellowish, spotted with red-brown; the labellum with two rounded auricles at the base, and produced behind into a short gibbous spur, the front lobe magenta-purple with pale margin. It is the subject of a coloured plate in the *Orchid Album* (I., t. 15), prepared from a plant which flowered in the collection of Mr. Joseph Chamberlain.

V. Parishii var. Marriottiana was first described in 1880. As compared with the type the racemes are fewer flowered, the flowers somewhat smaller, but more symmetrical in outline, and with proportionally broader sepals and petals that are bronzy-red toned with brown, passing into rose-purple towards the base, white at the extreme base; the basal auricles of the lip white streaked with rose-purple, the front lobe magenta-purple. Reichenbach remarked that "it is highly curious that when fading the blooms take on an olive-green tint with deeper blotches, thus finally looking like the genuine plant. The mauve colour is as warm as in the finest variety of Phalænopsis Lueddemanniana." V. Parishii var. Marriottiana, which is also figured in the *Orchid Album* (II., t. 61), flowered for the first time in the collection of Sir Wm. Marriott, Down House, Blandford.

* * *

Zygopetalum Murryanum.—This plant has the general habit of other members of the genus. It bears an erect spike of several flowers, and these, Mr. Rolfe has remarked (*Gard. Chron.*, Sept. 15th, 1888) have a highly singular appearance, owing to the total absence of markings on the sepals and petals. These organs are of a uniform bright green, while the lip is white, with a few reddish-purple markings near the base. The front lobe is somewhat elongated and rather narrow, the side lobes are smaller and



VANDA PARISHII VAR. MARRIOTTIANA.

rounded, while the fleshy callus is characteristic of the genus. The column is greenish-white with a few streaks of red in front. This species originally became known in 1839, being figured in the *Botanical Magazine* (t. 3674), from a plant which flowered in the Glasgow Botanic Garden, and which had been sent home by Gardner from the Organ Mountains in Brazil.

AUCTION SALE CATALOGUES.

THE catalogue of Messrs. Protheroe & Morris' auction sale of February 26th, 1897, contained descriptions of about 420 plants of Lælia anceps, "collected from the frigid altitude of the Mexiqua region of evergreen oaks, where icicles are formed on the branches of the trees in winter, 6 feet long and upwards." There were also included, by order of Messrs. Sanders, 2000 Cattleya Warscewiczii (gigas). Apart from the usual speculative interest attached to such a large importation, it was stated that "there are three white varieties among the plants offered which have lost their labels in transit, and for either or all of these we will give £100 each when in bloom."

On March 12th, 1897, the same auctioneers offered a number of Burmese Orchids, "many of them apparently quite new to science and cultivation." The plants were put up under their Burmese names (translated), as follows :—The Two Eyes Orchids, The Rock Flower, Egg of the Spirit Orchid, The Toad's-Eye Orchid, The Mighty King's Favourite, White Cloud Orchid, The Monkey Hand Orchid, Minas Eye Orchid, The Golden Branch Orchid, The Ghost's Chain Orchid, The Hat of the Hermit, The Scented Flower of the Tree Top, Dry Dirt, Yellow Flower of the Parrott, Royal Paddy Bred, Long Arm, Short Arm, Male of the December Flower, Druggist's Orchid, Wood Violet, Gold Flower of the Rock, Gold and Silver Flower, Yellow Flower, The Bird's Nest Orchid, and Heavenly Flower of the Wet Season.

Other plants in this sale included Dendrobium scabrilingue — the Wallflower-Scented Dendrobe, some Cymbidiums bought in the mountains as white C. Lowianum, as well as bottle-green and crimson varieties of C. grandiflorum.

On May 18th, 1887, Mr. J. C. Stevens sold by auction a remarkable specimen of Aërides falcatum var. Leoniæ, measuring 6 feet high, 4 feet through, with 23 growths and 25 spikes of blooms, 26-30 buds on each spike, in luxurious growth upon the rustic branch of a tree, well established. It realised 28 guineas. Also Aërides maculosum var. Schrœderi, grand specimen, with over 50 leaves, and 4 spikes with 133 buds, in perfect health. This realised 80 guineas. The catalogue of Mr. H. B. Mildmay's collection, of Shoreham, Kent, dated June 20th, 1895, contains on the final page an announcement that Mr. J. C. Stevens will sell by private treaty the Skeleton of a Monster Whale, nearly 75 feet in length.

Of the fine varieties of Cattleya Mossiæ obtained many years ago, scarcely an example remains, for the constitution of this species is inferior to that of C. Mendelii and C. Trianæ. On May 21st, 1897, Messrs. Protheroe & Morris offered by order of Messrs. Sanders "the grandest type of Cattleya Mossiæ." The introductory note stated that "since Arnold's unfortunate death the really wonderful varieties of Cattleya Mossiæ have been very few and far between. Arnold was a collector with a vast and varied experience of habitats and localities, and exceedingly intimate with native landowners, which may account for the extraordinary and excellent varieties he invariably procured. Nothing has since been seen to equal Baron Schröder's wonderful C. Mossiæ Wageneri, 9 inches in diameter; this was one of Arnold's. Then the red Mossiæ that Wm. Thomson sold to Mr. Walker for 200 guineas was also Arnold's collecting. The range and variation of colour is astounding. The varieties R. H. Measures, Her Majesty, and imperialis are all really magnificent, faultless in shape and frilling, and inimitable in colour. Pink, maroon, purple, old gold, lilac, magenta, and crimson are among the colours of the flowers, while in C. Mossiæ aurea the spreading, intensely coloured lip reminds one of C. aurea rendered even more beautiful by the broad blush petals." In the days when immense enthusiasm and speculation were attached to almost every fresh importation, such plants as those described above quickly found purchasers at remunerative prices.

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CALYPSO BOREALIS.

THE bi-monthly journal *Torreya*, in its issue of May-June, contains Further Notes on Calypso, by Mr. Henry Mousley. The author's first article on the subject appeared in the *Journal* of the New York Botanical Garden, February, 1924, and was referred to in the *Orchid Review*, vol. xxxii., p. 184. In the present paper he states that after years of patient research it is no surprise to the Orchid hunter to find new wonders awaiting him, not only above, but below ground also. On May 18th, Mr. Mousley discovered a fourth station for Calypso borealis, containing nine plants, and on the 22nd a fifth station of five plants, one of which was a lovely snow-white example.

Mention is made of the fact that if Calypso depended entirely upon its seed for propagation, it would very soon become extinct. Out of 50 plants examined this season, three only bore capsules. An accompanying plate shows 13 figures, the last one "depicting a plant growing in, and surrounded by a mass of white web-like, or lace-like fungus growth—mycelium—which threads through the earth and decaying wood, forming an alliance with the Orchid, which has been termed luxury-symbiosis, an association that has been regarded as harmful to the Orchid, but which is exactly the opposite, so far as I have been able to judge."

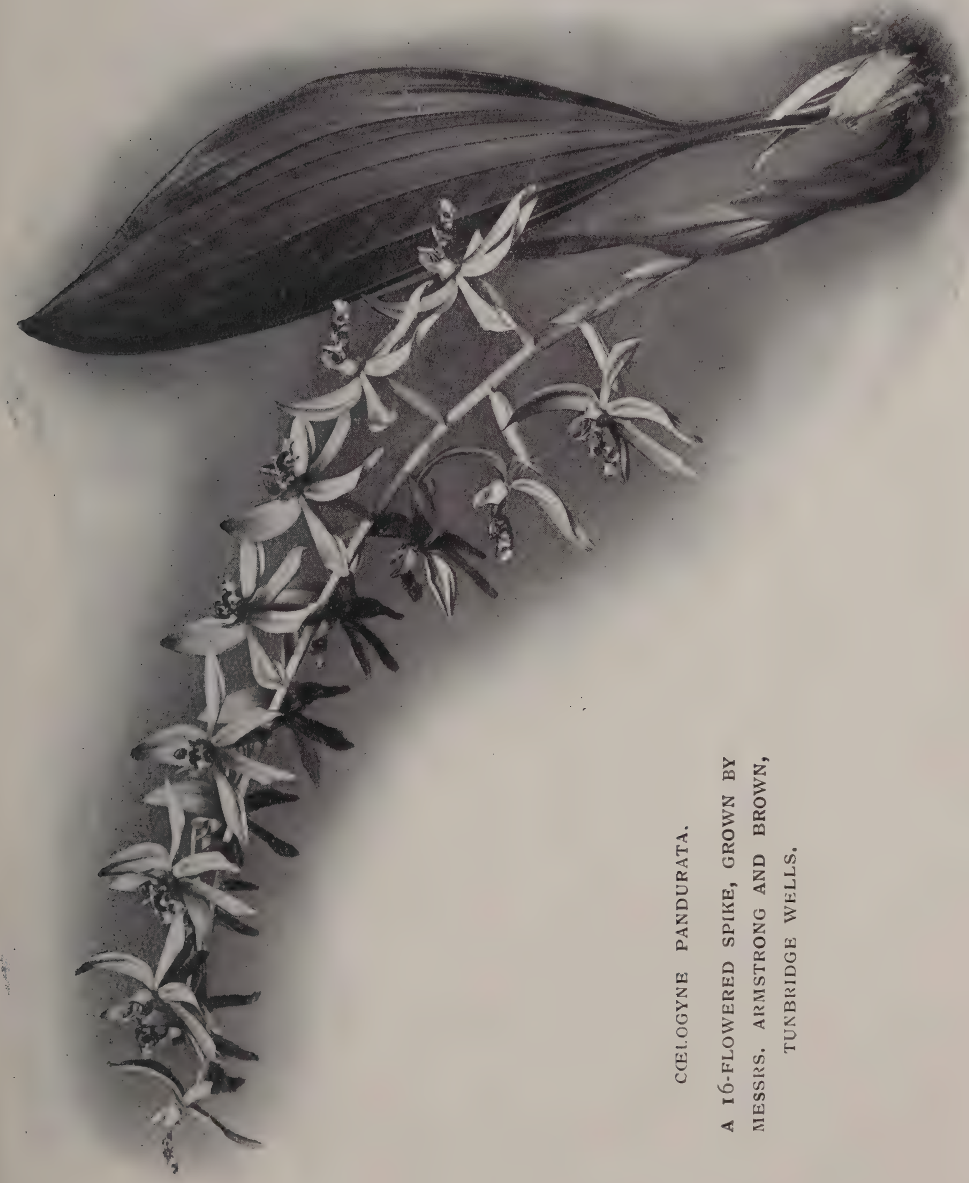
Mr. Mousley follows up this description by saying that "in several recent issues of the *Orchid Review* there have been papers on this subject of luxury-symbiosis, experiments having been carried out by several growers in which they have demonstrated that it is possible to rear seeds successfully without the aid of any fungus whatsoever, but in Nature unadulterated I have always found that where there is an abundance of mycorrhizal fungus, there surely, will one find, not only a greater number, but larger, richer, and more handsome plants as a rule."

CŒLOGYNE PANDURATA.

THE credit of discovering Cœlogyne pandurata is due to Sir Hugh Low, who found it in Sarawak, in the year 1852. It flowered for the first time in England in Loddiges' nursery at Hackney during the following year. In its native home it grows in the hottest jungles on the trunks of trees in the swampy lowlands adjacent to the coast and river banks, places that are almost inaccessible during the rainy season.

The plant consists of a stout creeping rhizome upon which the pseudo-bulbs are arranged at regular intervals. In our illustration only the last made bulb and leaf are included. On well cultivated plants the stiff and erect leaves often attain a height of 18 inches. The flower-spikes are produced along with the new growths, as is customary with many species of the genus, and are seen at their best during the early summer months. Each flower, when fully expanded, is about four inches across, with pale green sepals and petals, the labellum yellowish-green, streaked with black, and having the middle lobe covered with black warty asperities. The specific name is derived from the shape of the labellum, which although really oblong, yet, in consequence of the manner in which the sides are bent down, has much the form of a fiddle. A memorandum in the Hookerian herbarium states that the flowers emit a beautiful perfume.

The specimen herewith illustrated was grown by Messrs. Armstrong & Brown, Tunbridge Wells, and exhibited at the Royal Horticultural Society's meeting on June 4th, 1912, when a Cultural Commendation was deservedly awarded. Several other equally fine specimens have since been produced by this firm. The method of cultivation consists of placing the plants in shallow pans, or teak-wood baskets, with a compost of fibre and moss, always ensuring that sufficient space is allowed for the new growth, so that its roots may enter the compost and not stray outside the pan or basket. A rather high temperature is necessary, especially during the growing season, and a considerable amount of atmospheric moisture. Propagation is easily effected with healthy plants by severing the rhizome, and although additional plants have been produced from single bulbs, more satisfactory results are obtained by allowing two or three bulbs to remain on the separated portion. The quaint nature of the flowers and their peculiar greenish colour have led to the appropriate name Lizard Orchid. Of the eight garden-raised hybrids in the Cœlogyne genus, two have C. pandurata as one of the parents, these being C. albanensis (pandurata × Sanderiana), shown by Messrs. Sanders in 1913, and C. burfordiensis (asperata × pandurata), exhibited by Sir Trevor Lawrence in 1911.



CŒLOGYNE PANDURATA.

A 16-FLOWERED SPIKE, GROWN BY MESSRS. ARMSTRONG AND BROWN, TUNBRIDGE WELLS.

CULTIVATION OF SOPHRONITIS HYBRIDS.

IT is a common experience that Sophronitis hybrids are difficult plants to cultivate. From their earliest days the seedlings are slow in growth and take a comparatively long period to reach the flowering stage. The young plants usually remain healthy until the first flowers are produced, after which they frequently become a source of anxiety, for the strain thereby imposed upon their constitution is not readily overcome.

Looking down the now long list of Sophronitis hybrids, it may readily be seen that the proportion of Sophronitis in the parentage varies considerably. In some of them it is as much as one-half, in others much less, while in a few it is so small that discussion has been aroused as to whether they should be included in the section. In fact, not a few so-called Sophronitis hybrids show no evidence whatever of the characters of this genus either in the habit of growth or in their flowers, and for all practical purposes they are better placed among the Cattleya and Læliocattleya section.

But it is the investigation of the parentage that leads to the correct method of cultivation. Among the primary hybrids, and these are generally the most difficult subjects, there exists a well-known example in Sophrocattleya Doris (Sophronitis grandiflora × Cattleya aurea). The first parent is a cool-house plant, and the second a warm-growing one, hence this hybrid seems to require atmospheric conditions slightly warmer than those of the Odontoglossum house, but by no means so hot as Cattleya aurea enjoys during its growing season. When Sophrocattleya Doris receives too high a temperature it is forced to make rapid growth, far more than its constitution will permit of with satisfactory results. A frequent occurrence is for the plant to commence growing at several points simultaneously, instead of at the last-made bulb only. This may be well so far as any ideas of propagation are concerned, but the making of several growths at the same time is seldom accompanied by satisfactory results with regard to the subsequent flowering. Continual excitement by excessive heat is therefore inadvisable.

In gardens where glasshouse accommodation is limited, it is not always possible to select the suitable position that one would like to find for this section of hybrids. During the summer months the coolest part of the Cattleya house, or the warmest position possible in the Odontoglossum house, is recommended. But even when this suggestion is put into practice one is not really certain of success being achieved, for not only do our English summers vary considerably, but the Cattleya house in one garden may be very different in situation and temperature to that of another. Sophronitis hybrids, more especially the primary crosses, need continual attention, and as they are rarely represented in any one collection by more than a score of plants it is more than can be expected for a house to be devoted especially to their culture, consequently it is necessary to move them into suitable atmospheric conditions with the changing seasons of the year. During the winter season, when the seedlings and matured plants are generally inactive, a day temperature of 60 degrees is near the mark, while the compost and the atmosphere should both be maintained in a less moist condition.

For a potting compost there is nothing better than clean fibre in which some living sphagnum moss has been mixed previous to using the same. Sophronitis grandiflora is such a dwarf plant that it is rarely cultivated in any other receptacle than a shallow pan. This method may also be adopted for most of the primary crosses, but as succeeding generations generally contain a smaller proportion of Sophronitis in the parentage, usually resulting in taller growing and more vigorous plants, so it becomes necessary to afford more rooting space, and deeper pans are required. While in the case of Sophronitis grandiflora the surface of the compost is usually covered with a layer of sphagnum moss, much to the plant's liking, it is better to allow a more open surface in the case of stronger growing and larger plants. This can be accomplished by inserting the sphagnum moss in little tufts at intervals round the edge of the pot, and occasionally in the central area.

With respect to some of the Sophronitis hybrids of recent production, there is so small an amount of Sophronitis character in them that, as before mentioned, it is questionable whether they should still be classified as such. Whether they are Sophrocattleyas, Sophrolælias, or Sophrolæliocattleyas, their parentage should always be a matter of consideration, and what is perhaps of greater importance their character of growth should also be studied. If they show little evidence of Sophronitis one may just as well treat them as Cattleyas or Lælias, for any individual treatment as regards a lower temperature would probably prove unsuitable.

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Sale of the Amberley House Collection.—Messrs. A. J. Keeling & Sons have received instructions to sell by private treaty the "Amberley House" collection of Orchids formed by H. Green, Esq., Gravelly Hill, Birmingham. It comprises about 650 well-grown Cypripediums, including many of the finest varieties, such as C. Memoria F. M. Ogilvie var. The King; C. Christopher var. Grand Duke Nicholas; and C. Perseus. There are also about 400 Brassocattleyas, Cattleyas, Læliocattleyas, and other Orchids in choice varieties, most of which have been purchased in flower. Detailed catalogues may be obtained from Messrs. A. J. Keeling & Sons, Westgate Hill, near Bradford.

ORCHID NOTES FROM SYDNEY, NEW SOUTH WALES.

By Arthur Yates.

BRASSIA VERRUCOSA.—I am sending a photograph of a plant I have been growing for many years. Last spring it had ten spikes, each averaging ten flowers. For many years I failed to bloom this plant satisfactorily, it was grown with the Cypripediums, under glass, where it obtained a little heat during the cool season, it grew well but did not flower. My present method is to put it into a cool airy glass house, without any heat, at the beginning of winter, and to keep it on the dry side till the flower spikes show in the following spring. Under this treatment it has not failed with me, and flowers annually. Although kept free from frost, the temperature goes down at times to 45 degrees, Fahr. Although not a showy Orchid, it is a very graceful plant when well flowered. It requires little attention, excepting watering with the hose. With me it is free of all insect pests.

Odontoglossum grande.—I have flowered plants of this species quite successfully in the bush, or shade, house, which is practically the open air. I grow them in this way for eight months in the year, but during the winter, to keep them dry and resting, I place them under glass, but without any artificial heat. They get a similar rest to the Brassia verrucosa mentioned above.

Cypripediums.—I have also tried to grow the hardier kinds of these in the bush-house, but did not succeed in blooming them satisfactorily. I am afraid our atmosphere is too dry, the plants did not thrive, and it is difficult to prevent them becoming infested with scale. Since placing them under glass again in moist shady conditions, the plants have recovered their healthy condition, are much freer from scale, and are blooming well. Two years or so ago, I imported from England twenty of the newer Cypripedium hybrids. I never saw finer or more vigorous plants, but having been grown within a few miles of London, the leaves were covered with soot, and it took a couple of spongings to clean them. It would be thought that under these conditions the plants would languish, but I am wondering whether the presence of so much ammonia in the air of urban England is not a positive advantage in the growing of Orchids, although possibly the smoke may be detrimental to the open flowers. At any rate, with all the advantages of pure air and sunlight I cannot equal these plants in their vigour and the length of their leaves. A few years ago I tried giving my Orchids a little stimulant, the formula for which was published in the *Orchid Review*. The results were not permanently satisfactory, and the plants suffered a relapse during the following season.

Cattleyas and their Hybrids.—For some reason which I cannot explain, many of my plants this season have dropped an unusual number of leaves. Some which had four or five leaves are now reduced to three or even two. I cannot think that the treatment they have received is any different to that of other years. In this sunny climate, Cattleyas bloom well and fairly regularly, but they do not carry their leaves for so long, nor do they have the same deep green colour as the plants I have imported from England. If other growers in similar conditions could give their experiences it would be helpful. I have lath blinds, which are rolled up when the sun is not powerful, and during the winter season.

ANSWERS TO CORRESPONDENTS.

BASKETS FOR ORCHID CULTURE.—It is quite true that the method of cultivating Orchids in teak-wood baskets is not practised to the extent that it was in the days of our parents. If we seek the reason it will be found in the fact that there has been a change in the fashion of certain classes of Orchids. How seldom do we now see a collection of Stanhopeas, all of which require basket treatment in order that their pendulous flower spikes may be seen in perfection. Other genera requiring somewhat similar conditions of treatment exist in Acineta, Catasetum, and Cœlogyne. Basket treatment for these plants is just as necessary to-day as ever it was and we wish that more of them could be seen. Their place has been taken by plants requiring pot treatment, and with such favourites as Odontoglossums, Odontiodas and Cattleyas, many amateurs cannot provide space for other kinds. One thing, however, is certain, and that is the amateur who possesses a collection of Stanhopeas and allied plants will always have something in the way of rare surprises for his visitors. With many folk much satisfaction is obtained by showing to others something they have never seen before.

POSITION OF BOTTOM VENTILATORS.—A correspondent enquires whether the bottom ventilators should be placed above the level of the hot-water pipes or below them. In the construction of Orchid houses the matter of ventilation should always receive careful consideration, for the successful cultivation of the plants depends very much on the admission of fresh air. If the bottom ventilators are placed above the level of the hot-water pipes there is a continual risk of an unsuitable atmosphere from outside coming into direct contact with the plants. With respect to the Odontoglossum house, the cool air from outside may seem beneficial, especially in cooling the house during the summer months, but it must be remembered that the outside atmosphere in sunny weather is usually much too dry for the Odontoglossum section. The only reliable method is to place the bottom ventilators low down, as low as possible, so that the outside atmosphere may be sufficiently moistened by passing over the damp floor of the house and the under-staging of wet coke or other moisture-holding material. In the case of the warmer-growing kinds of plants, the outside atmosphere should always be made to pass near the hot-water pipes in order that it may be raised to a suitable temperature before coming into contact with the plants. No hard and fast rules can be laid down with respect to the daily task of attending to the ventilators, they must be adjusted in accordance with the weather, and in most countries the changes are frequent and often times severe. Too much ventilation is frequently quite as injurious as too little.

Tall Vandas.—What is to be done with Vanda suavis which has grown too tall for my house is a query which comes to hand from an amateur. About thirty years ago Vandas were popular subjects and cultivators took special care to ensure that the foliage remained healthy. Tall specimens clothed with leaves from the base to the apex were much esteemed. But in course of time, even under the most suitable conditions the lower leaves decay, and the basal part of the stem becomes bare. It is then necessary to turn the plant out of the pot, remove the compost, and cut off some or all of the bare portion of the stem. Vandas have the habit of emitting roots from the portion of the stem well above the compost, and thereby they are able to re-establish themselves after the lower portion has been removed. It would be a risky matter to attempt to establish the upper part of a Vanda unprovided with roots. Many cultivators use nothing else but crocks and sphagnum moss for filling the pots, or baskets, while others include a proportion of fibre. In any case the compost requires periodical inspection, and renewing every nine or twelve months.

Native Habitat of Odontoglossum crispum.—The country from which any particular species has been obtained is only a partial guide to the treatment necessary. One of the most important points is to ascertain the altitude at which the plants were collected. In the case of Odontoglossum crispum a glance at the map will show that its native country, Colombia, is in the equatorial area, hence hot-house treatment is suggested. But this species grows at an altitude of about 8,000 feet, where the atmosphere is cool and moist during all seasons. Amateurs receiving plants from distant countries should take particular care to ascertain the altitude, for only by so doing can artificial conditions be correctly produced.

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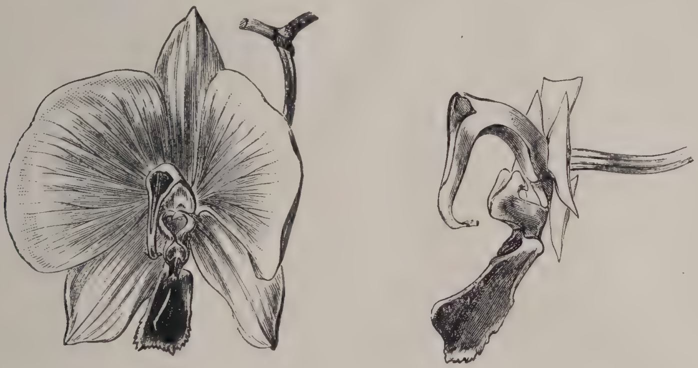
American Orchid Society.—A copy of the By-Laws of the American Orchid Society, with a list of the Officers and Members, June, 1925, shows that the Society now stands on a firm foundation. The President is Mr. Albert C. Burrage, and the Secretary is Mr. Thomas W. Nason, 85, Ames Building, Boston, Mass., U.S.A.

PHALAENOPSIS LOWII.

THE credit of discovering Phalænopsis Lowii is due to the Rev. C. S. Parish, when travelling in Moulmein. It was introduced to cultivation in English gardens by Messrs. Low & Co., in 1862. The flowers are nearly two inches in diameter, the sepals and petals white, with a faint flush of amethyst-purple on the basal half. The labellum three-lobed, the side lobes erect and resembling two incurved horn-like bodies that are white with a yellow spot, the middle lobe deep purple. A characteristic feature is the curved column with its long beak resembling an elephant's trunk.

Major-General Berkeley found P. Lowii growing in the low-lying country about sixty miles up the Ghine river, east of Moulmein. In the low river delta there are many small groups of limestone rock, sometimes only a few feet above the plain, sometimes two hundred or more. It is on these rocks or clinging to the bushes that grow out of them, that this plant is found, in company with Doritis Wightii.



PHALÆNOPSIS LOWII.

P. Lowii has more than once been described as remarkable on account of its deciduous habit. But in some "Notes on Orchids in the Jungle." (Orc. Rev., I, p. 243), Major-General Berkeley has stated that really strong plants of it are not deciduous in favourable positions in its native habitat, and therefore such plants should not be allowed to become deciduous in our English houses. With sufficient attention, plants of P. Lowii cease to be deciduous, and get sufficiently strong to retain their leaves all the year round. Although rather troublesome to train the plant into sufficient strength, the trouble is well repaid by the production of strong instead of weak flower-spikes. In Moulmein have been seen spikes quite three feet long, with many side branches, and at least a hundred flowers out at one time.

Major-General Berkeley further remarked: "I may explain for the benefit of gardeners and growers of these so-called deciduous Phalænopses, that the season during which they are at rest in the jungle, and lose their leaves, is very short. On the equator the rains only cease for about a month, and 15° N. of it only about two months, so that growth recommences after a very short rest. If rested and allowed to become deciduous in our English houses, the resting season becomes much too long, the plant gets weaker and weaker and never does any good. I have plants which have been eight years in England which retain their leaves all the winter, and are growing very strongly, and these always lose their leaves the first few seasons. My method is simply to keep the moss round the roots alive in the winter, which allows of sufficient moisture to prevent the leaves from drying up."

NEW OR NOTEWORTHY ORCHIDS.

"SCHEDULÆ ORCHIDIANÆ," No. 9, July, 1925, is devoted to New or Noteworthy Orchids, by Prof. Oakes Ames. In its 62 pages, twenty-two species are proposed, and the results of recent studies of tropical Orchids are set forth. The new species, with the exception of the West Indian Pleurothallis archidiaconi, are natives of Costa Rica.

Of particular interest are the first two species described, Vanilla odorata and V. pompona. The latter differs from V. odorata in its broader leaves, larger flowers, and shorter, trigonous fruits. "Unfortunately," remarks the author, "our knowledge of the genus Vanilla is still very imperfect. The flowers are ephemeral and very difficult to press, so that specimens brought in by collectors are usually sterile or so poorly preserved that the floral characters are difficult to interpret. Throughout the literature devoted to the genus, this situation has been emphasized. With the increasing interest now being taken in the vegetation of the American tropics, it is hoped that efforts will be made to preserve flowers of Vanilla in alcohol, so that the difficulties of identification of old species and the proper characterization of new ones will be simplified."

Vanilla odorata, Presl, was described originally from fruiting material. Mr. Rolfe was unable to discover a single clue regarding the floral characters of Presl's species, although he was able to differentiate it by folia-characters from its probable allies. In July, 1923, Mr. Oakes Ames received from the Bureau of Plant Industry of the United States Department of Agriculture a miscellaneous collection of Vanilla specimens sent from Ecuador for identification. Although the flowers were in bad condition, the leaves of one of the specimens agreed closely with Presl's description of V. odorata. The fruits of this species were said to be a favourite with the Indians, and to be much prized by them as a spice. Mr. Oakes Ames states that there seems to be little doubt that the narrow-leaved species represents the V. odorata described by Presl from specimens collected near Guayaquil. A whole-page illustration and full description of this species are now published.

It is stated that the region where Vanilla odorata was collected has an elevation of about 2,000 feet, and while tropical, is not inordinately hot. The specimen examined came from plants cultivated by Mr. Oscar C. Felton on the banks of the Napo River, not far from Tena. Mr. Felton grows his Vanilla plants in shade, either on trellises or on the trunks of bread-fruit trees. The flowers are more or less ephemeral and have to be artificially pollinated to ensure a crop. For the maturing of the "beans" about six months are required.

The value of the present number of *Schedulæ Orchidianæ* is considerably enhanced by nine reproductions of drawings by Mrs. Oakes Ames, in all of which the analytical details are clearly defined.

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Cattleya Hardyana.— Although forty years have elapsed since Cattleya Hardyana first appeared in Mr. Hardy's collection at Timperley, Cheshire, this hybrid is still a favourite with amateurs. It was originally known as a natural hybrid between C. Warscewiczii and C. aurea, but has on several occasions been artificially produced in gardens. By using the variety of C. Warscewiczii with white sepals and petals, a similar condition has been effected in C. Hardyana, and although the name alba has been applied to these seedlings, the flower is not entirely white, for the labellum is coloured similarly to the typical form. Some thirteen years ago a batch of the "alba" form of this hybrid was raised in the collection of Baron Bruno Schröder, Englefield Green, Surrey, and under the care of Mr. J. E. Shill the plants have yielded annually a fine show of bloom. During the past few weeks over a hundred plants of C. Hardyana alba have been flowering in this noted collection. Some of the best specimens have carried as many as 15 flowers, while others have had three and four spikes, each with an average of three and four flowers. There were several instances of a spike bearing five well-developed flowers. As may be imagined, the sight of so many handsome flowers open simultaneously was indeed an impressive one.

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Brachionidium Sherringii, Rolfe.—An interesting addition to this singular little genus. It was discovered by R. V. Sherring, Esq., in the island of Grenada, West Indies, growing on a tree fully exposed to the sun and all the force of the wind, at Fedon's Camp, at 2,400 feet elevation. It is described from dried specimens. The three previously recorded species are all natives of the Andes. The genus is nearly allied to Masdevallia.—*Kew Bulletin*, 1893, p. 4.

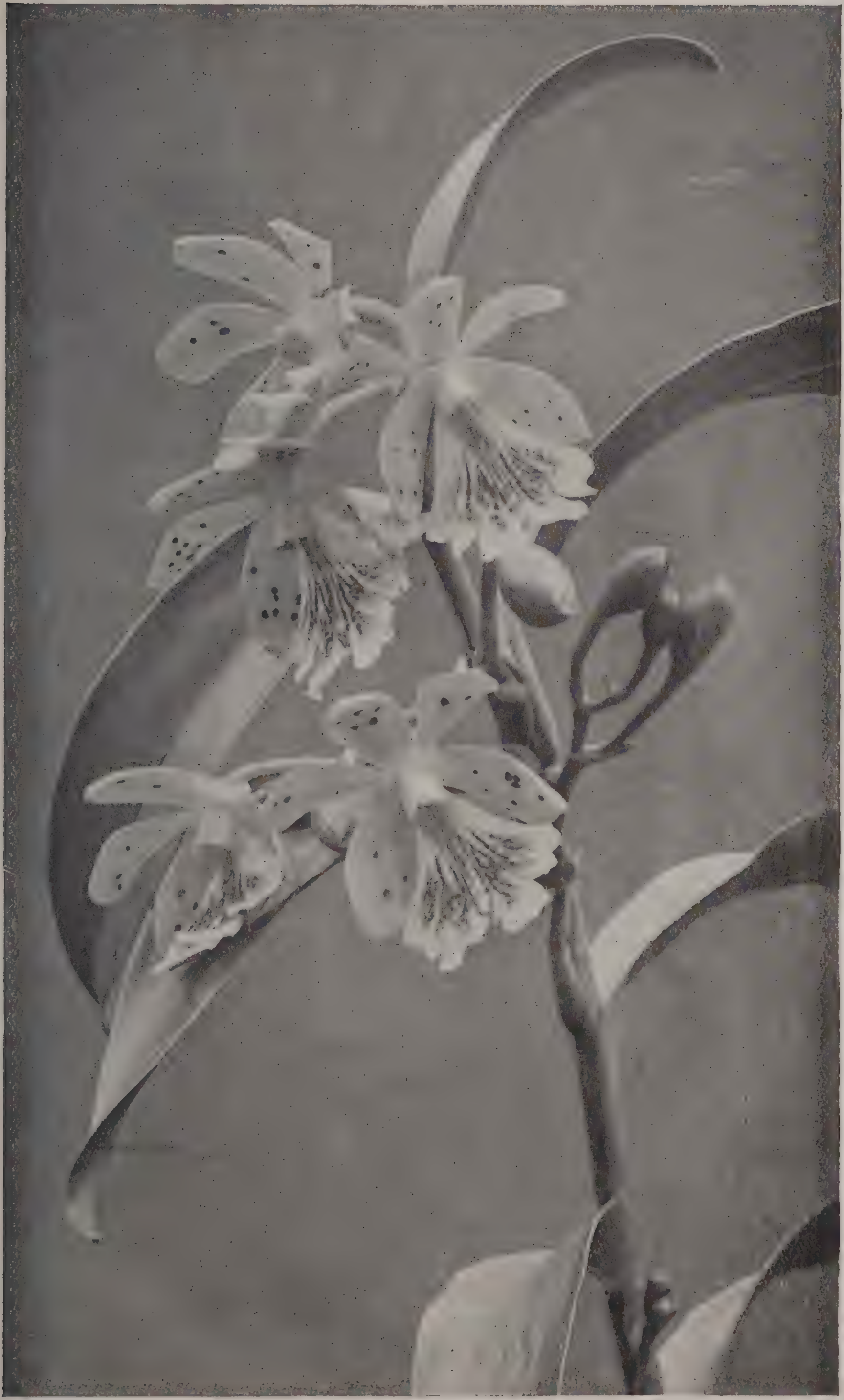
EPIDENDRUM WALLISII.

THE history of Epidendrum Wallisii goes back to the year 1874, when it was introduced by Messrs. Veitch, through their collector, Gustav Wallis, who at that time gave no indication of its locality. Subsequently, it was ascertained that the species is a native of the Frontino district, on the Western Cordillera of Colombia, growing in light situations at 4000 to 7000 elevation.

In the year following its introduction, Reichenbach remarked (*Gard. Chron.*, 1875, ii., 66): "E. Wallisii forms a new section of the Epidendra, with a leafy stem (not pseudo-bulbous). When I proposed the section Pleuranthium I included the Epidendra which have a lateral inflorescence, like that of so many Dendrobia, and opposed to the general rule, all others having terminal ones. Now there are a few species which have both terminal and lateral inflorescences. I believe the difficulty can only be solved by proposing a new section, which I call Acropleuranthium. The oldest species is E. exasperatum, discovered by Wenland, fils. Now comes our neophyte. I do not know how tall the plant may become, my dry specimen is but a span high. The flowers have a pleasant smell of honey combined with musk. Mr. Wallis told me the smell was the most powerful in the blotched varieties, which is a very interesting observation."

The peculiar habit of the plant is well seen in the accompanying illustration. The axillary racemes are produced in succession as the stem gradually elongates, and strong established plants flower almost continuously, until the stem reaches its extreme height of about five feet. The individual flowers, produced three to five on a raceme, are about two inches across, the sepals and petals canary-yellow, spotted with blackish-purple, the petals sometimes with but few spots. The comparatively large lip is white, streaked and stained with purple, and having three raised orange-coloured lines at the base. The column is short, thick, and pale yellow.

E. Wallisii is the parent of several hybrids, the best known being E. Endresio-Wallisii, while a descendant is E. elegantulum (Endresio-Wallisii × Wallisii), of which a photographic illustration appears on page 165 of our June issue. Both parental species and the hybrids are well worthy of cultivation, and require no special attention, although in common with all other Orchids the finest flowering results are produced on healthy and vigorous plants. The genus Epidendrum crosses satisfactorily with the genera Cattleya, Lælia, and Sophronitis. A few hybrids have been raised in each of these sections, and, generally speaking, they yield prettily-coloured flowers. Whether they can be improved upon by further hybridisation is a question that must remain undecided for the time being, for, so far as we know, no one is raising Epidendrum hybrids in quantity.



EPIDENDRUM WALLISII WITH BOTH TERMINAL AND LATERAL INFLORESCENCES.

CULTURAL NOTES.

THE nights are now getting chilly, and it is better to have sufficient warmth in the hot-water pipes, to admit of ventilation, rather than to have the ventilators tightly closed without such warmth. The first conditions are favourable to a pure and healthy growth, while the latter conditions are favourable only to disease in one or another of its many forms. Although the thermometer may not fall below a given point, yet the atmosphere becomes too heavily charged with moisture, which is stagnant and unwholesome, not resembling in the least the natural conditions under which they grow. I therefore advise, in order that the proper ripening process may proceed uninterruptedly, that a little warmth be now kept in the pipes each night, even though it be but for a few hours, and in dull, cold weather during the day also.—*H. A. Burberry.*

Before the end of the month shading will be little more required, and it should be dispensed with on all the houses as soon as ever it is possible with safety. September and October are two months in which an inexperienced man is apt to make many mistakes. Lengthy details might be summarised into the word—*moderation.* Moderation in damping, watering, airing, shading, firing. All these things are necessary, but in moderation. Let things go on steadily, and be satisfied with the progress made. Many bulbs which have a finished look are yet green and succulent, and will fill out astonishingly, but do not try to hurry them. Do not try to economise fuel by keeping the ventilators unduly close, but let all the houses have air while there is still light, and the plants will go through the winter well. Too much damping is fatal, and do not be seduced into syringing heavily overhead at three o'clock because the sun is strong. You may find the water on the foliage next morning. The syringe is now becoming a dangerous instrument. Shutting up the houses in the afternoon should now be discontinued.

TEMPERATURES.—The day temperatures will still be largely a question controlled by outside conditions, and the night temperatures should read something like the following :—

EAST INDIAN HOUSE, 70°.	CATTLEYA HOUSE, 65°.
INTERMEDIATE HOUSE, 60°.	ODONTOGLOSSUM HOUSE, 55°.

These temperatures should be maintained, with a fair amount of air on the houses, having, during favourable weather—with the exception of the East Indian House—both the top and bottom ventilators a little bit open. During sunless weather the temperatures should rise at least 5° more in the daytime, and on warm nights the above temperatures may be exceeded a little.—*J. M. Black.*

The magnificent and floriferous Dendrobium Phalænopsis is now about to flower on this season's growths, and everything should be done to get these well developed. A fair amount of water will still be required until the flowers are over, when the commencement of a long and complete rest should begin. No shading will be required for these plants now, nor in fact any of the Dendrobes, except it be for an hour or so during the hottest part of the day in the early part of the month. With the above are associated the variety Statterianum and the allied D. bigibbum. The grand white-flowering D. formosum giganteum is also producing its blooms on the early-made bulbs, and should be treated like the forementioned; those not in such a forward state must, however, be more plentifully supplied with water. D. densiflorum, thyrsiflorum, and Farmeri should, as they finish up their bulbs, be removed to a light and airy position in the Cattleya or similar house.

Vanda Kimballiana is another species now in bloom. This grows well in a basket, with just sufficient material to keep it stable, and suspended in the Cattleya house where air can circulate freely round it. Syringe it pretty freely during growth, and the roots will soon show their appreciation of this method of watering by growing out and hanging down in clusters.

Cypripediums belonging to the cool section, namely C. Charlesworthii, and the many varieties of C. insigne, are commencing to push up their flower scapes, and should have every encouragement to induce them to flower satisfactorily. C. Charlesworthii is nearly expanding its flowers, and these will open better if removed to slightly warmer quarters; the Intermediate department will be found suitable for this process.—*J. Mackay.*

One hears a lot about growing Orchids naturally, but a lot of the Orchids grown now are home-raised, and the question is what is natural for home-raised plants? Should they be treated as imported plants used to be, or as ordinary stove or greenhouse plants whatever temperature they require? I find they do much better treated more like other plants, and sprayed on every fine day, as we do our stove and other plants—not enough to make a lot of difference to the moisture of the compost they are potted in, but enough to keep the leaves clean and healthy. If they are given a little ventilation on every favourable occasion, one will not be troubled with spot or yellow thrip, and there is very little danger of leaves falling off if care is taken to keep the temperatures right. Keep a little higher rather than below the required figure, then everything will go right. Never syringe with a falling temperature, and always allow it to rise a little after ventilating, but do not rush the heat—keep it as even as possible, and then thrip and red spider will not be any more trouble.—*W. J. Morgan.*

Pleiones should be well exposed to the light, and as soon as the leaves commence to turn yellow the supply of water must be reduced, the soil being kept just moist so as to encourage the flowering growths.

Immediately the foliage has fallen, the flower buds will appear, and as the flowers commence to open the compost should be kept comparatively dry, and the plants removed to a cooler and dryer temperature, where they will last much longer in bloom than if left in the damp, close atmosphere in which they were grown, and no harm to the plants can result.—*J. T. Barker.*

BRISTOL FLORAL FETE.

THE Bristol Floral Fete held at Packers Grounds on July 24th and 25th proved a most successful event. The Orchids were worthy examples of excellent cultivation, and included many choice varieties.

In the class for six specimen Orchids, the first prize was won by Dr. F. J. Cairns, of Devon House, Whitehall Road, Bristol, his plants being Cattleya Gaskelliana, with nine flowers, C. Warscewiczii var. imperialis, with four large flowers, Læliocattleya Aphrodite alba, with a similar number of flowers, Odontioda Diana, carrying a pretty spike, Odontoglossum crispum xanthotes, white, with bright yellow spots, and O. crispo-Harryanum, a well cultivated example with a spike of 20 flowers.

E. N. Bryant, Esq., Avonhurst, Beaconsfield Road, Bristol, was awarded the second prize, the following plants being included: Cypripedium St. Alban, bearing six flowers, C. Burtonii, Odontoglossum crispum, with a fine spike of bloom, Cattleya Gaskelliana, with several flowers, Læliocattleya Canhamiana, also well-flowered, and Miltonia Charlesworthii, the latter with four spikes of rose-tinted flowers, the labellum bearing a large deep-crimson blotch on the basal area.

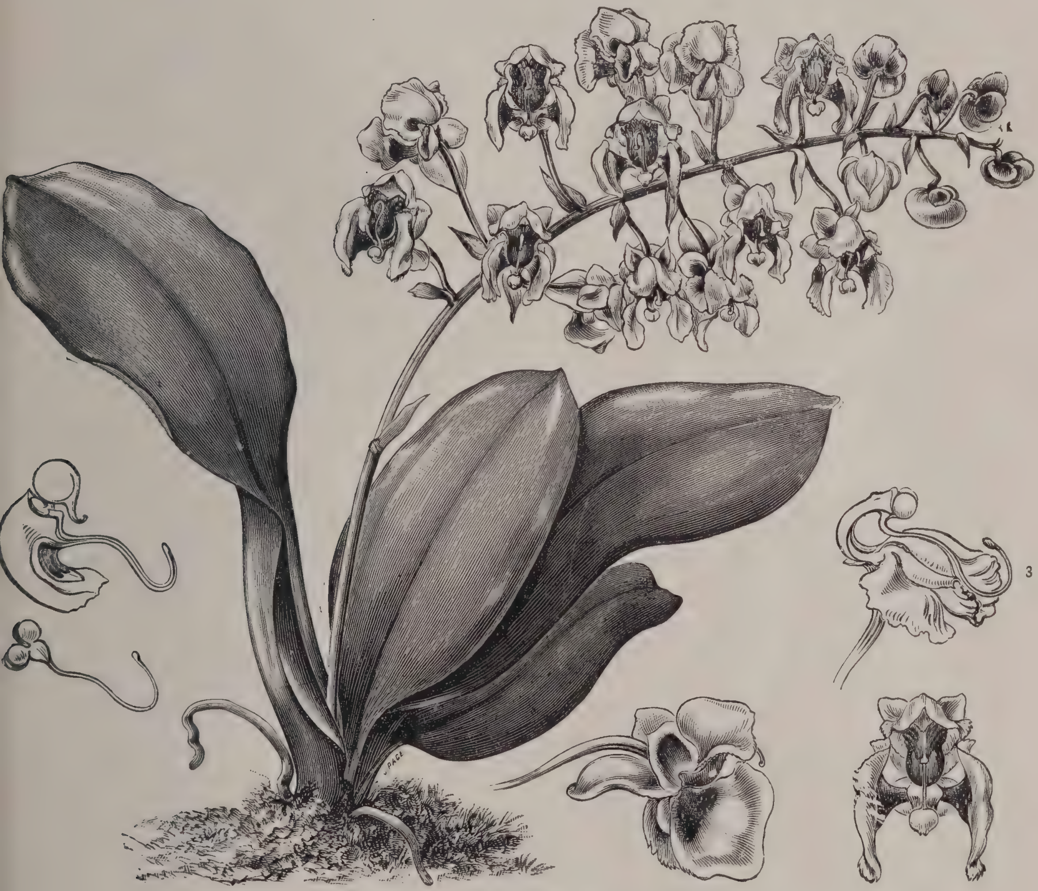
Dr. F. J. Cairns was placed first in the class for three Orchids, and J. Wilkins, Esq., second.

Messrs. Cypher & Sons had a splendid group in the non-competitive section, and were awarded a Gold Medal. It consisted largely of decorative plants, among which Orchids were arranged with charming effect.

Messrs. A. J. Keeling & Sons, Bradford, staged the only group composed entirely of Orchids. It was a very effective display and received a Gold Medal. Among the 60 Orchids we noticed a fine plant of Cattleya Eleanore alba, C. Warscewiczii, of large size and deep colour, Odontioda Dovere, with flowers of brilliant scarlet, Oda. Lakonia, also of scarlet colour, and Læliocattleya Sargon, of grand formation and unusually good in coloration. Cypripediums were numerous, and included C. Schillianum superbum, with three spikes, and another plant of the same with two spikes, also C. Goweri Gratrixiæ and Cyp. A. de Lairesse, a handsome variety which looked well with its three tall spikes of bloom. The season was not the best for Odontoglossums, but a pretty variety of O. Jasper may be mentioned.

ORNITHOCEPHALUS GRANDIFLORUS.

THE genus Ornithocephalus was founded by Sir William Hooker on O. gladiatus, a native of Trinida, which was introduced to the Botanic Garden at Glasgow in 1824, probably through Sir Ralph Wood, the Governor. The generic name—" a bird's head "—was suggested by the remarkable form of the column and its appendages.



ORNITHOCEPHALUS GRANDIFLORUS.

(1) side view, (2) front view of flower, natural size ; (3) column and lip, (4) rostellum, (5) pollinia and caudicle, enlarged.

The most essential character of the genus is the long slender rostellum, to which an equally long caudicle or stalk of the pollen masses is attached by means of its terminal disc, the latter organ lying so closely appressed to the elongated rostellum that the two appear to be one body. These details are well displayed in the accompanying illustration. About twenty-five species are known, scattered over tropical America from Mexico to Southern

Brazil, but very few of them possess horticultural interest. Sir Joseph mentioned O. ciliatus as being in cultivation in 1844, and O. Oberonia was in Mr. Saunder's collection at Reigate in 1869.

O. grandiflorus was originally discovered by Gardner on the Organ Mountains in Southern Brazil, in 1837, and was described by Lindley in 1840. The plant consists of about five leaves, in the axis of which the small pseudo-bulb is formed. The flowers are about ¾in. in diameter, the sepals and petals white with a bright green spot at the base, the labellum saccate and strongly keeled beneath, on the short claw of which is a horse-shoe shaped green callus with a crisped fan-like prolongation in front. The column is white, bent like a swan's neck, while the rostellum is produced into a thread-like appendage. A coloured plate of this species is included in the *Orchid Album*, x. t. 472. The best cultural results are obtained by growing the plant in a basket, or shallow pan, with a compost of fibre and sphagnum moss. Warm house treatment and shady conditions during the summer are necessary.

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BRASSOLÆLIOCATTLEYA FLAVIDA.—Another step forward in the production of the large yellow-flowered Cattleya has recently been seen in the collection of Baron Bruno Schröder, Englefield Green, Surrey, where it was raised by J. E. Shill. The parents are Blc. Amber and Lc. Golden Queen. The former is composed of Brassavola Digbyana, Cattleya aurea, and Lælia xanthina, and the latter, of unrecorded parentage, bears flowers of light apricot-yellow colour, with rose-crimson on the lip. Blc. Flavida is a beautiful flower possessing broadly formed segments of pure yellow colour, the labellum shaded with a delicate peach tint.

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BRASSOLÆLIOCATTLEYA MONA.—Messrs. Cowan & Co. have added another exquisite hybrid to the yellow-flowering section. It is Blc. Mona (Bc. Mrs. J. Leemann × Lc. Carmencita). The former parent is a well-known hybrid between Brassavola Digbyana and Cattleya aurea, and the latter results from the crossing of Cattleya Dowiana with Lc. luminosa. Blc. Mona combines the good qualities of all the parental species. In an early example of this novelty, the sepals and petals are unusually thick in texture, clear yellow, slightly tinged with a darker tint on the exterior surface. The labellum is roundly formed, yellowish, stained and veined with crimson-purple, more especially on the two side areas enveloping the column. The influence of B. Digbyana is visible in the large size of the labellum and in its fringed margin. It is a promising hybrid, and the flowering of other seedlings from the same seed-pod will doubtless show some variation from the present example.

NEW HYBRIDS.

NAME.	PARENTAGE.	EXHIBITOR.
Brassolæliocattleya Flavida	Blc. Amber × Lc. Golden Queen	Baron Schröder.
Brassolæliocattleya Frau Selma Wolter	Bl. Digbyano-purpurata × C. Schrœderæ	Paul Wolter.
Brassolæliocattleya Mona	Bc. Mrs. J. Leeman × Lc. Carmencita	Cowan & Co.
Brassolæliocattleya Plumion	Bc. Pluto × C. Schilleriana	Sanders.
Cattleya Helena	Kienastiana × Maggie Raphæl	Black & Flory.
Cattleya Hermia	Warcewiczii × Dionysius	,, ,,
Cattleya Lysander	triumphans × Rhoda	,, ,,
Læliocattleya Niebelungen	L. purpurata × C. Stuartii	Paul Wolter.
Læliocattleya Valeria	Lc. Momus × C. Kitty Wren	Charlesworth.
Lycaste edinensis	macrophylla × cruenta	Edinburgh Bot. Gdns.
Odontoglossum Rossantha	Rossii × Panther	C. J. Lucas, Esq.
Odontoglossum St. Mungo	Britannia × St. James	R. Paterson, Esq.
Odontonia Cybele II.	Otna. Dora × Odm Georgius Rex	Charlesworth.
Oncidioda Bruceæ	On. Schlimii × C. Nœzliana	Mrs. Marion Bruce

RODRIGUEZIA PUBESCENS.

THIS species was originally described in 1851 as Burlingtonia pubescens by Lindley, who remarked—" This beautiful novelty was exhibited at a meeting of the Royal Horticultural Society in November last, when it received a Silver Medal. It formed a wide tuft of dark green rigid leaves, pouring forth from their bosom a profusion of bunches of snow-white blossoms." In November, 1846, a plant flowered with Messrs. Loddiges. It remained scarce for a long time, and was subsequently imported in quantity from Pernambuco. The racemes are pendulous, longer than the leaves, 10 to 15-flowered. The individual flowers are nearly 1½ inches in diameter, white with a yellow blotch at the base of the lip.

In a note by Mr. E. O. Orpet, contributed to *Garden and Forest*, 1896, p. 348, it is remarked that the flowers " seem to be self-fertilising, as a number of the caps containing the pollen were found on the bench under the plant, some at quite a distance, as though they were forced off by some mechanical means, such as those developed in Catasetum and other genera, and a day or two later many of the seed-vessels began to swell. The flowers were evidently impregnated without artificial aid." This occurrence appears to be exceptional. We should like to hear of similar cases.

The genus Rodriguezia was dedicated by its founders to Emmanuel Rodriguez, a Spanish physician and botanist of the 18th century. The plants are of dwarf habit, and should be grown in pans or baskets in an intermediate house, where a very moist atmosphere is maintained during the growing season. While some cultivators use sphagnum moss only, others obtain somewhat better results with a mixture of fibre and moss in about equal proportions. Insect pests are oftentimes troublesome, and periodical sprayings, or washing, with a suitable insecticide are necessary to keep the plants clean. The flower spikes in their early stages of growth are often attacked.

ROYAL HORTICULTURAL SOCIETY.

July 28th, 1925.

MEMBERS of the Orchid Committee present: Frederick J. Hanbury, Esq. (in the Chair), Sir John Rutherford, Bart., Messrs. Gurney Wilson (Secretary), Richard G. Thwaites, John Cowan, J. E. Shill, Arthur Dye, H. T. Pitt, Chas. H. Curtis and Frederick K. Sander.

AWARD OF MERIT.

Sophrolæliocattleya Magnet (Slc. Virginia × C. Hardyana), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury, Glos. (gr. Mr. H. G. Alexander). In its general habit this plant shows the influence of the Sophronitis grandiflora contained in the parentage. The two flowers were of medium size, the segments compactly formed, of purplish-mauve colour, the roundly formed labellum crisped at the margin, the front zone of rich purple, the inner area velvety-crimson, and with gold veining in the throat.

GROUPS.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Banksian Medal for an exhibit containing in the centre a superb plant of Bulbophyllum macrobulbon, which was previously in flower at the time of the Chelsea Show, and now bore two spikes with five and six flowers respectively. It is a regular occurrence for this species to flower twice in each year. On one side were Cypripedium Maudiæ, with three well-developed flowers, C. Lawrebel, and C. Triumphans, while on the other side were Miltonia vexillaria var. Queen Alexandra, with a spike of five large flowers, M. Venus var. Dulcis, very pretty, and Brassia longissima. Interesting species were seen in Anguloa brevilabris, with three large flowers, the charming Angræcum Scottianum, Masdevallia corniculata, and Odontoglossum crispum, a pleasing variety of the Trianæ section, and which had been in the collection just on thirty years. Brassocattleya Ilene represented the best of the Brassavola hybrids of this period of flowering.

Messrs. Cowan & Co. were awarded a Silver Banksian Medal for an attractive group in which Cattleya Vesta (Snowdrop × Lady Veitch) occupied a prominent position, the flowers being pure-white and with the segments compactly arranged. Another albino was seen in Cattleya Lady Veitch (Lueddemanniana × Warneri), a new batch of seedlings raised by Messrs. Cowan and of considerable promise. Cattleya Mossiæ var. Queen Mary (A.M., R.H.S.) had a white flower, the labellum slightly tinged with rose. Of the popular C. Hardyana, there were fine examples of the typically coloured type and also of the section having white sepals and petals. Læliocattleya Nanon carried flowers of purplish-mauve colour, the labellum much darker. This group also contained numerous Cypripediums, and of these mention may be made of C. Ernest Read, a particular favourite with the late Mr. J. Gurney Fowler, fine examples of Moira and Maudiæ, as well as of bingleyense var. Chorltonii, crimson in colour, and C. Harrisianum, G. S. Ball's variety, which is finer and much darker than the normal type. Cypripedium gigas, Corndean Hall variety, bears its flowers on unusually tall stems, and on that account is in great request for decorative work; it has been exported in large quantities to the United States.

August 11th, 1925.

Members of the Orchid Committee present: Frederick J. Hanbury, Esq. (in the Chair), Messrs. Gurney Wilson (Secretary), Richd. G. Thwaites, Stuart H. Low, Ernest R. Ashton, Thomas Armstrong, J. E. Shill, Arthur Dye, and Fredk. K. Sander.

AWARD OF MERIT.

Brassocattleya Corrientes (Bc. Ilene × C. Hardyana); from Dr. Miguel Lacroze, Bryndir, Roehampton (gr. Mr. A. Taylor). This promising hybrid was first raised in this amateur's collection, and the present example is an exceedingly attractive one. The large flower is specially noteworthy on account of its up-standing petals, and the broadly developed labellum, which is crisped and prettily fringed. In colour the sepals and petals are uniform rosy-mauve, the labellum of darker colour on the marginal zone, while each of the lateral lobes bears a bright yellow area.

GROUPS AND OTHER EXHIBITS.

Messrs. Sanders, St. Albans, were awarded a Silver Banksian Medal for an attractive exhibit containing Vanda cœrulea, two well-flowered plants of Rodriguezia secunda, with numerous rose-pink flowers, Epidendrum cochleatum, Oncidium Gardneri, and other species. Cattleyas were well represented in C. Hardyana, specially fine varieties being seen in alba conspicua and Bruges Belle. C. triumphans, with two light yellow coloured flowers, and C. Eleanore alba, with white sepals and petals, were both noteworthy. Among the Cypripediums were Cyp. Oakes Ames, with unusually tall spikes, and Cyp. barbato-Rothschildianum. Botanical plants were staged in the pretty Cirrhopetalum umbellatum and Trias disciflora. Several brightly coloured Odontiodas and a few Odontoglossums made an effective background.

Messrs. Black & Flory staged Cattleya Lysander (triumphans × Rhoda), a promising novelty, with yellow sepals and petals, the labellum suffused with dull crimson; Cattleya Hermia (Warscewiczii × Dionysius), a large flower, white, except for the expansive labellum, which is of bright purple extending to the side lobes above the throat; and Cattleya Helena (Kienastiana × Maggie Raphael), with white sepals and petals, the labellum having bright mauve mottling on the marginal zone, and golden venation on the disc and throat area.

Baron Bruno Schröder, Englefield Green, Surrey (gr. Mr. J. E. Shill), brought Brassolæliocattleya Flavida (Blc. Amber × Lc. Golden Queen), a beautiful flower with broadly formed petals and entirely yellow, the labellum shaded with a delicate peach colour.

August 25th, 1925.

Members of the Orchid Committee present:—C. J. Lucas, Esq. (in the Chair), Hon. Henry D. McLaren, Messrs. Gurney Wilson (Secretary) Richd. G. Thwaites, Thos. Armstrong, Ernest R. Ashton, Fred. K. Sander' J. E. Shill, H. T. Pitt, and Arthur Dye.

AWARD OF MERIT.

Brassolæliocattleya Golden Glory (Bc. Mrs. J. Leemann × Lc. Orion); from C. J. Lucas, Esq., Warnham Court, Horsham. A very pleasing hybrid. The well-cultivated plant carried a couple of large flowers having clear lemon-yellow sepals and petals, and an expansive labellum, crisped and fringed at the margin, the outer zone of bright rose, the central area yellowish with crimson suffusion.

Odontoglossum Laurentia magnificum (Jasper × Olympia); from J. J. Bolton, Esq., Claygate, Surrey. An attractive hybrid, and remarkable for flowering so well at this season of the year. The arching spike bore ten flowers of thick texture, the sepals and petals rose-tinted and blotched with red; the large labellum broadest at its apex, white, and with a bright red blotch on the central area; the spiny crest of bright yellow colour.

J. J. Bolton, Esq., also showed Odontoglossum Harold (eximium × Jasper), with a spike of eight large flowers, the segments almost covered with purplish-rose colour, the labellum of darker colour.

Messrs. Sanders exhibited Cattleya Surprise (Prince John × Comet), with two flowers, the sepals and petals suffused with deep rosy-mauve, the former showing some whitish mottling, and the latter veined with white over the whole area; the labellum crimson-purple, the throat golden. A very distinctly coloured hybrid.

◆

EPIDENDRUM ORGANENSE.—This species is a native of the Organ Mountains, whence it was introduced, among Sophronitis grandiflora, by Messrs. Sanders, with whom it first flowered in July, 1891. It has dull yellow sepals and petals, the former much marbled and streaked with purple-brown behind, and the lip whitish with nine purple radiating lines round the crest.

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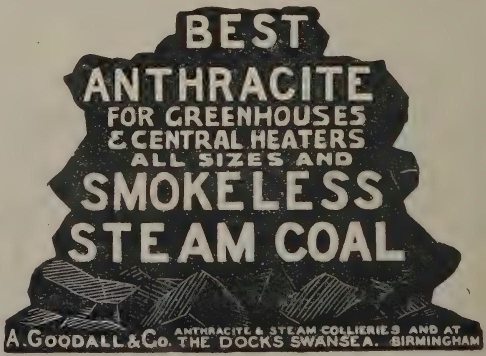
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THE ORCHID REVIEW.

VOL. XXXIII.] OCTOBER, 1925. [No. 388.

NOTES.

BARON KAWADA'S ORCHIDS.—The Orchid collection of Baron Ryokichi Kawada was seriously injured in the great earthquake, and we now regret to learn that he possesses only a few Dendrobiums and Cymbidiums.

ORCHID CULTIVATION IN NEW ZEALAND.—It is almost impossible to purchase Orchids in New Zealand, and to import from England always carries with it an element of risk. I am trying my best to get my friends to join with me in growing Orchids, and succeeding a little; in time no doubt, I shall prove successful. Alfred R. Ragg, 605 Gloucester St., Christchurch, New Zealand.

R.H.S. AUTUMN ORCHID SHOW.—The annual Orchid Exhibition arranged by the Royal Horticultural Society will be held in the Society's Hall, Vincent Square, Westminster, on October 20th and 21st. The Challenge Cup presented by Baron Bruno Schröder will be awarded to the best group of Orchids exhibited by an amateur. Another Challenge Cup, presented by the Trade growers, will be awarded to the best group exhibited by an amateur who does not employ more than three assistants in the Orchid houses (including the head gardener).

DR. H. O. FORBES' MALAYAN PLANTS.—A systematic account of Dr. Forbes's New Guinea plants was published as a Supplement to the *Journal of Botany* for 1923. As stated in the introduction to that paper, Dr. Forbes also made extensive collections, mainly in Java and Sumatra, during 1878 to 1883, and the Supplement now appearing gives an account of these. The September issue contains the commencement of the Monocotyledones, by Mr. H. N. Ridley, C.M.G., F.R.S. Among the Orchids described are several new species, which include Eria rhinoceros, remarkable for the large bracts and the callus on the lip forming a long horn; Calanthe breviflos, differing from any form of C. veratrifolia in its lax raceme and very short petals and lip; Phalænopsis Forbesii, allied to P. cornu-cervi, but the tall many-flowered raceme is not flattened as in that species and the lip not dilated at the tip; Sarcanthus Forbesii, which resembles S. muticum, J. J. Sm., but differs entirely in the shorter not pedunculate inflorescence and the pollinia; and Forbesina eriæformis, a new genus, of which an illustration is given showing the general habit of the plant and details of the flowers.

DENDROBIUMS AND VANDA CŒRULEA.—Dried flowers of Vanda cœrulea, showing large development and fine quality have been received from R. C. J. Swinhoe, Esq., Mandalay, Burma, who, in an accompanying note dated August 16th, says: "I am a Solicitor practising here and am, as an amateur, looking after the Orchid house at the new Government Botanical Gardens at Maymyo, a hill station two hours motor drive from Mandalay. Our Vanda cœruleas are now out and, as you will see by the enclosed flowers, Nature can grow quite good specimens. Maymyo is a well-known habitat for them, as for Dendrobium chrysotoxum, D. suavissimum, and many others."

CATTLEYA MRS. G. E. BALDWIN.—A new hybrid Cattleya has been raised and recorded under this name by Messrs. G. E. Baldwin & Co., Mamaroneck, N.Y., U.S.A. The parents are C. Harold (Gaskelliana × Warscewiczii) and C. Dowiana. Judging by the time of the year in which the three parental species flower, this hybrid should make a very useful summer and early autumn flowering plant. The seedlings so far flowered are described as being of beautiful coloration.

ANGRÆCUM SCOTTIANUM.—Although of comparatively dwarf habit, this species rarely fails to attract attention and its inclusion in several of the groups recently exhibited at the meetings of the Royal Horticultural Society has brought the plant into greater popularity. It was first obtained by Sir John Kirk in 1878 from Johanna, one of the Comoro Islands, and dedicated to Mr. R. Scott, of Cleveland, Walthamstow, in whose garden it flowered for the first time in England in 1879. An importation in 1885 through M. Leon Humblot caused it to become generally distributed, although most, if not all, of the plants of this importation are not now alive. It is readily distinguished from the majority of other Angræcums by its slender stem, about fifteen inches high, its terete leaves, 3-4 inches long, and its large, almost square lip. The flowers are inverted, 1½-2 inches in diameter, the sepals and petals similar, pale straw-yellow changing to white, while the lip is prolonged at the base into a pale reddish-brown slender spur 4-5 inches long. The column is very short, with two small hatchet-shaped wings in front.

ORCHID CULTURE IN THE AUSTRIAN ALPS.

IN the *Orchid Review* for September, page 273, it is correctly stated that "the amateur who possesses a collection of Stanhopeas and allied plants will always have something in the way of rare surprises for his visitors." We have indeed here in Leoben—a city of a few thousand inhabitants in the Austrian Alps, no great collection, but some amateurs who grow Orchids in rooms, without a glass house. Stanhopeas have flowered regularly for many years, and, of course, are greatly admired by all the visitors. Stanhopea oculata produced a spike of four flowers, and this was grown by an amateur in a room, save that during the period of being in flower the plant was suspended in the open air on account of its powerful odour.

The possessor of Stanhopea tigrina, Miss Teglitsch, has also Cœlogyne cristata, which last season yielded five spikes, and remained in flower for three months, during which period it was kept in a room, itself unheated, but which received the morning sun and was situated close to a heated room. Odontoglossum Rossii thrives and flowers each year with another amateur. As for myself, I had in earlier years not only Lælias and Cattleyas, but even Vanda Kimballiana, V. cœrulea and Masdevallias, all successfully cultivated. At present I grow chiefly Odontoglossums, and now have Odontoglossum grande, O. Rossii, O. Eximillus, Oncidium ornithorhynchum and Cypripedium insigne Sanderæ in bud. Cœlogyne Massangeana is another Orchid which flowers freely in rooms. I assert that the cultivation of many Orchids in rooms is not more difficult than Fuchsias or Geraniums. In Germany the number of amateurs who cultivate Orchids in rooms is evidently very great, for a hand-book by Mr. A. Bräcklein is in existence which has reached a second edition. I do not know whether such a book exists in the English language.

17/2 *Langgasse, Leoben, Austria.* Dr. V. Bulhart.

[Dr. Bulhart kindly sends photographs of Stanhopea tigrina growing in a basket, through the bottom of which a scape of two flowers is suspended. The flowers are fully developed and appear to be equally as fine as those produced under glass-house treatment.]

◆

Stanhopea Wolteriana.—This hybrid Stanhopea was described in 1905, from a plant raised by Mr. Paul Wolter, Magdeburg, Germany, the parents being S. tigrina and S. Martiana. The flower, strongly perfumed, measures 5½ inches from tip to tip of the lateral sepals, which are two inches broad. The colour is honey-yellow, with many large red-purple blotches from base to middle of the dorsal sepal; the petals bear a few spots and a very large deep red-purple blotch at the base.

NEW HYBRIDS.

Name.	Parentage.	Exhibitor
Brassocattleya Betty	Bc. Thorntonii × C. aurea	R. Paterson, Esq.
Brassolæliocattleya Elektron	C. Hardyana × Blc. Amber	Baron Schröder.
Brassolæliocattleya Golden Glory	Bc. Mrs J Leeman × Lc Orion	C. J. Lucas, Esq.
Brassolæliocattleya Irma	Blc. The Baroness × Lc Golden Queen	Baron Schröder.
Brassolæliocattleya Salta	C Suzanne Hye × Blc. The Baroness	,, ,,
Cattleya Debutante	Albion × Gaskelliana	C. J. Lucas, Esq.
Cattleya Mrs. G. E. Baldwin	Harold × Dowiana	G. E. Baldwin & Co.
Cattleya Surprise	Prince John × Comet	Sanders.
Cattleya Xanthus	Hardyana × illustris.	Baron Schröder.
Læliocattleya Peacock	C. Dowiana × Lc. Colmaniana	Sanders
Miltonia Nellie Smith	St. Andre × Hyeana	R. Paterson, Esq.
Odontoglossum Idina var. Alberta	Gorizia × Aquitania	J. & A. McBean.
Odontoglossum Ardenworthii	Aireworth × ardentissimum	,, ,,
Odontoglossum Daulis	Jasper × Lady Veitch	Charlesworth & Co.
Odontoglossum Edie	mirum × His Majesty	,, ,,
Odontoglossum Enchantress	Anzac × Colossus	E. R. Ashton, Esq.
Odontoglossum Georgina	Georgius Rex × Rosina	J. & A. McBean.
Odontoglossum Hesione	The Czar × Tityus	Charlesworth & Co.
Odontoglossum Homily	Rolfeæ × Alexandrina	J. & A. McBean.
Odontoglossum Moira	Vardar × Georgius Rex	Charlesworth & Co.
Odontoglossum Mygdon	Lady Veitch × Rosina	,, ,,
Odontoglossum Nola	Penelope × Britannia	,, ,,
Odontoglossum Olenus	Faustina × Lady Veitch	,, ,,
Sophrolæliocattleya albanensis	C. Dowiana × Slc. Jeanette	Sanders.

Corrections —P. 285, the parentage of Blc. Plumion should read Bc. Pluto × Lc. Endymion, and Lc. Valeria should be Lc Valerie

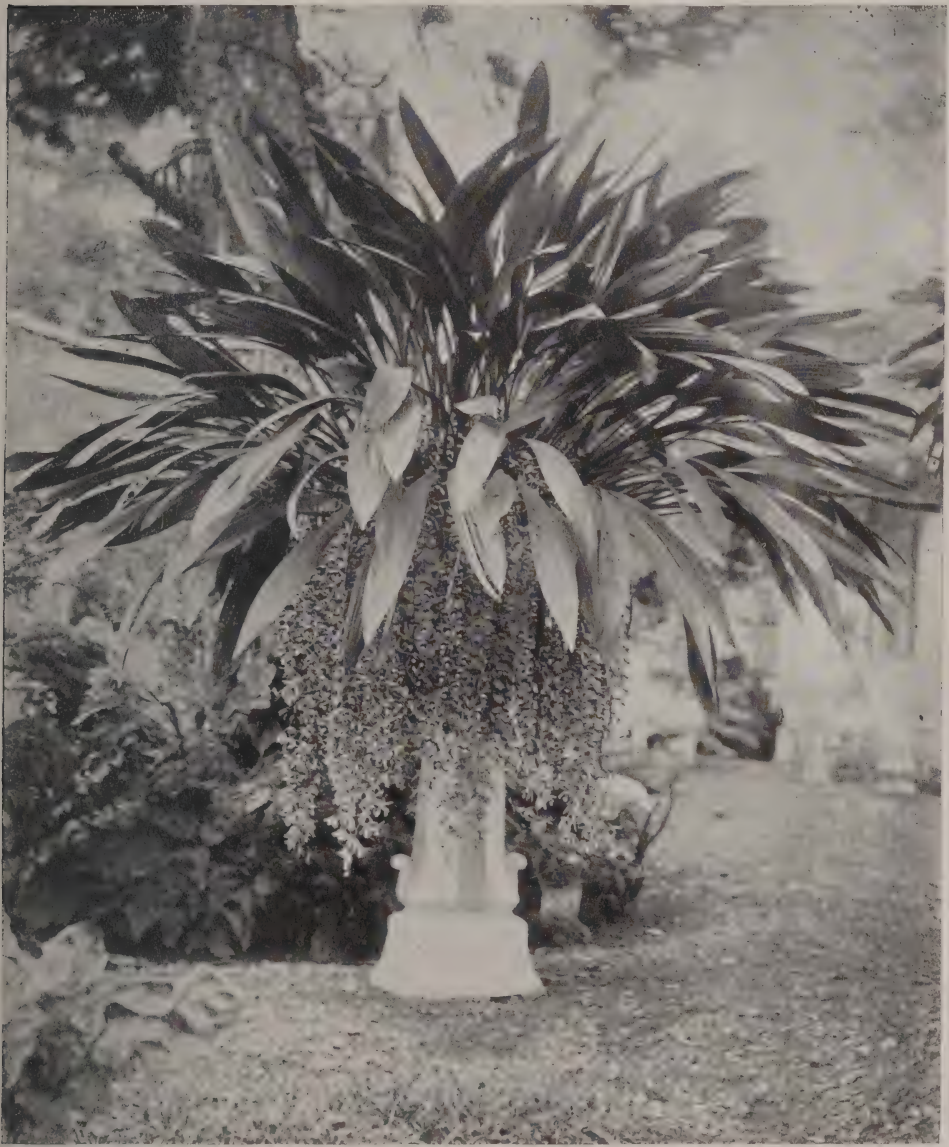
◆

CŒLOGYNE DAYANA.

THE genus Cœlogyne was founded by Lindley, in 1825, on the well-known C. cristata, which had been discovered by Wallich, in Nepal, the year before. C. Dayana was introduced by Messrs. Veitch, through their collector Curtis, and flowered for the first time in England at Chelsea, in June 1884. The species is dedicated to Mr. John Day, who owned a celebrated collection. When describing it, Reichenbach remarked "I had another Cœlogyne of somewhat inferior beauty, destined to bear Mr. J. Day's name, so that this excellent gentleman, whose name is so thoroughly connected with Orchids, could no longer escape commemoration by a Cœlogyne."

In its native country, C. Dayana grows upon the branches of large trees in the hot lowlands near the coast, and on the banks of streams under the same conditions as the allied C. asperata and C. pandurata. The leaves are from 24 to 30 inches long, and the pendulous scapes often attain a length of three feet. The individual flowers are 2-2½ inches in diameter, pale nankeen-yellow, the lateral lobes of the lip brown, streaked with white on the inner side, the middle lobe has a fleshy disc consisting of six white erect keels with brown fringes on the anterior side, two of which are prolonged to the base of the lip.

The accompanying illustration of a grand specimen flowering in the garden of Mr. D. Schaap, of Kandangan, Madioen, Java, allows one to form an idea of the true nature of this elegant species. When photographed,

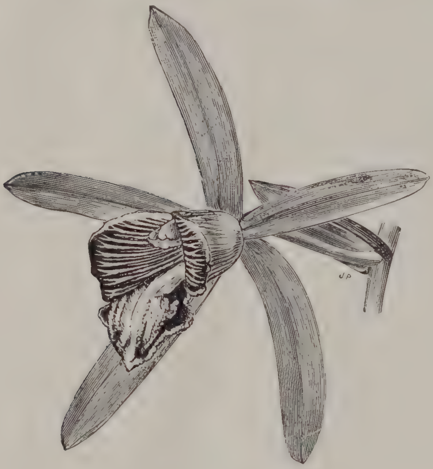


CŒLOGYNE DAYANA.

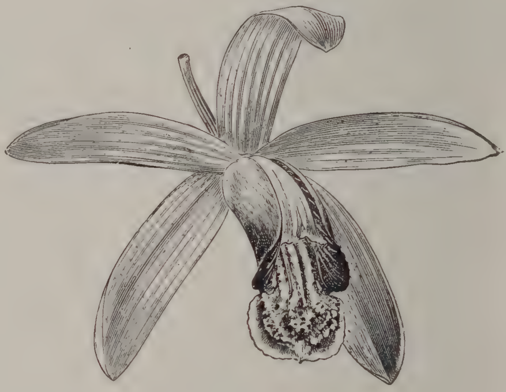
this plant bore 78 pendulous spikes, each with about 50 flowers, the total number thus approaching 4,000.

C. Dayana is best cutivated in a shallow pan or basket, and during the growing season may be placed on the staging, but when the flower spikes are being produced it is necessary to elevate the plant, or else suspend it from the roof in order that the full natural effect may be obtained. This species, commonly known as the Necklace Orchid, requires warm house treatment, especially during the growing season.

Cœlogyne Massangeana is in many respects similar to the above, as may be seen by the illustrations of separate flowers. It was first described by Reichenbach, in 1878, but it had been in cultivation in several French and other continental collections for many years previously under the name C. assamica, which represents a totally different plant allied to C. fuscescens. C. Massangeana has the reputation of being a very free grower, and its long pendulous racemes, which appear at all seasons of the year, are developed with considerable rapidity. The racemes are 18 to 24 inches long, the individual flowers 2 to 3 inches in diameter, the sepals and petals light buff-yellow, the labellum whitish externally, brown obliquely streaked with yellow on the inner side, the middle lobe with a fleshy verrucose brown and yellow disc, below which are three denticulate keels extending to the base of the lip.



CŒLOGYNE DAYANA.



CŒLOGYNE MASSANGEANA.

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Sigmatostalix bicornuta.—Introduced from Peru by Messrs. Sanders, through their collector, L. Forget, and flowered in the Royal Botanic Garden, Glasnevin, in January, 1912. It is allied to S. graminea, Rchb. f., and has yellow flowers, with a deep, purple-red stripe on the dorsal sepal and petals. The specific name refers to a pair of fleshy conical horns on the petals, an unusual character.

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Manchester Orchid Society.—Meetings will be held on October 1st and 16th, November 6th and 20th, December 4th and 17th.

AMERICAN ORCHID SOCIETY.

THE American Orchid Society has arranged to hold an Exhibition in the Memorial Hall, Philadelphia, on May 7th, 8th and 9th, 1926. The Preliminary Schedule includes no less than 93 classes, some of which are restricted to amateurs, others to commercial growers, while the majority are open to all comers. A section is devoted to hardy Native Orchids, and another to Cut Orchids.

In order to encourage the greater and better cultivation of tropical Orchids by amateurs who personally cultivate their own plants and by those who have limited facilities for growing Orchids, the Trustees earnestly request that each exhibitor enter the largest groups which his collection enables him to enter, thus personally contributing to the horticulture of Orchids by leaving the classes for the smaller groups to those who have limited collections.

In order that the standard of Orchid culture in the United States may be continuously advanced, the judges will recognise evidence of exceptionally superior cultivation of Orchid plants, whether exhibited singly or in groups, by the award of appropriate medals to the actual grower.

In order that flowering Orchids may be seen under the best conditions, the judges are specially authorized and requested to recognize superior original presentation of exhibits by making appropriate special awards to the exhibitors of the same, even if such exhibits have received awards in special classes.

The Schedule Committee will welcome any suggestions or recommendations as to where this schedule may be improved. All communications on this subject will receive careful consideration, and the committee will include these recommendations, if approved, in the final schedule. The Schedule Committee comprises Messrs. Thomas Roland (Chairman), Nahant, Mass.; George E. Baldwin, Mamaroneck, N.Y.; James Goodier, Elkins Park, Pa.; Oliver Lines, Larchmont, N.Y.; and Joseph Manda, West Orange, N.J.

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Saccolabium Woodfordii.—A native of the Solomon Islands. It is allied to S. undulata, has dense racemes of pale vermilion flowers tipped with brown on the inside of the lip.

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Oncidioda Bruceæ.—On the first flowering of this hybrid the parentage was given as Oncidium Schlimii crossed with Cochlioda Nœzliana, but on further consideration of the former parent it is doubtful whether O. Schlimii was really used. The exact identity of the Oncidium species cannot be acertained until it flowers again, which may occur next year.

CATTLEYA HARDYANA.

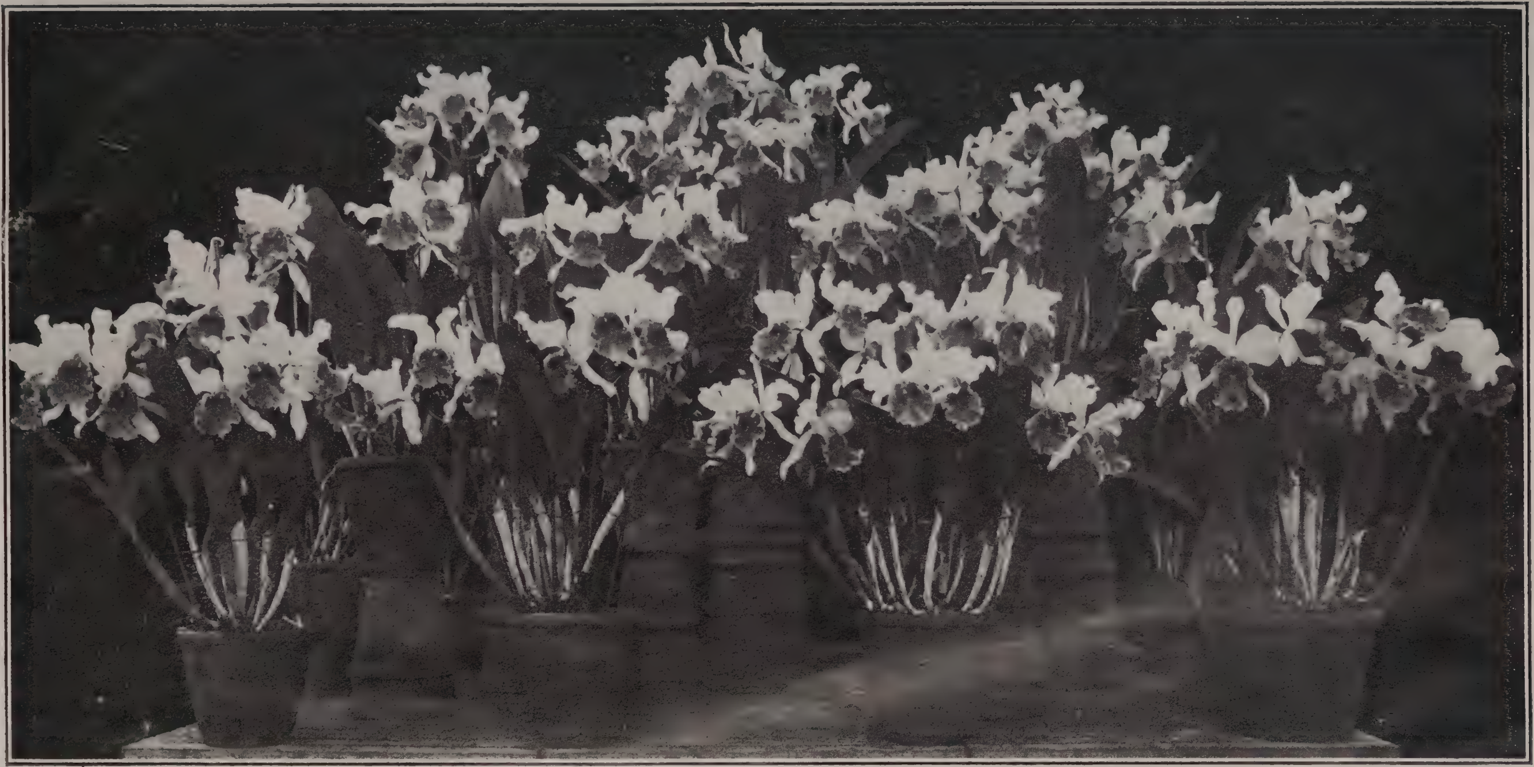
WITH the present multitude of hybrid Cattleyas it is difficult to form an idea of the great interest that was taken in the early examples. Apart from their own particular beauty, these plants of long ago had a special interest at the time, for the opportunity of seeing the characters of two species combined in one individual was an event that caused considerable wonderment.

Cattleya Hardyana was one of the treasures of former-day collections. It was imported from Colombia about the year 1880, and a couple of years later produced its first flowers in the collection of Mr. Geo. Hardy, Timperley, Cheshire. The hybrid nature of the plant was immediately recognised and led to its correct description as a natural hybrid between C. aurea and C. Warscewiczii (gigas). All subsequent importations of the parental species were carefully scrutinised, and although additional examples were thereby secured, C. Hardyana was for a long time a scarce plant, and always realised a high price. The sum of a hundred guineas was frequently paid for examples of this plant, and propagated pieces could be sold readily at almost equally high figures, so that it was a profitable stock to deal in.

But even the experts sometimes failed to detect this natural hybrid when received amongst imported plants. A particularly lucky speculation was the purchase by Mr. R. H. Measures, an amateur at Streatham, of an imported plant of Cattleya Warscewiczii (gigas) from Messrs. Sanders. When it flowered for the first time in cultivation, in 1888, it proved to be a fine variety of C. Hardyana. This alone would have been a sufficient surprise and reward to many amateurs, but in this case the plant happened to be a grand specimen with over one hundred bulbs and ten leads.

The raising of C. Hardyana from seed soon engaged the attention of trade growers and amateurs. In August, 1887, C. aurea was crossed with C. Warscewiczii in Mr. N. C. Cookson's collection at Oakwood, Wylam-on-Tyne. The seed was sown twelve months later, and the first flowers were seen in the autumn of 1896, when the seedlings were eight years old. The results were similar in every respect to the imported examples.

With the introduction of Cattleya Warscewiczii var. F. M. Beyrodt, a form having white sepals and petals, material was at hand for producing a corresponding change in the same segments of the flowers of C. Hardyana. Although the labellum retains its gorgeous crimson and purple coloration, this variation has become well-known in collections as C. Hardyana alba. Some thirteen years ago a batch of the "alba" form was raised in the collection of Baron Bruno Schröder, The Dell Park, Englefield Green, Surrey, by Mr. J. E. Shill, and the reproduced photograph, taken this autumn, allows one to form an idea of the wonderful display of bloom



CATTLEYA HARDYANA ALBA, SPECIMEN PLANTS FLOWERING IN THE COLLECTION OF BARON BRUNO SCHRÖDER,
THE DELL PARK, ENGLEFIELD GREEN, SURREY.

produced by this hybrid when well cultivated, as indeed the plants have been under the skilful attention of Mr. Shill. Over a hundred specimen plants of C. Hardyana alba were in flower simultaneously. Many of the plants bore three and four spikes, each with three and four flowers, while some of the best specimens were specially attractive on account of having 15 flowers open at the same time. C. Hardyana, in common with most hybrids of C. Warscewiczii, has a fairly robust constitution, and generally responds well to the usual treatment accorded Cattleyas, more especially so when periodical propagation restricts the plants to about five or six bulbs, and say a couple of growths. But the difficulties seem to commence with the growing-on of these plants into large specimens, when trouble is experienced in keeping the several new growths up to their former state of vigour. In the opinion of the practical grower, keeping the same plant growing for a number of years is a difficult matter, and this implies doing so without propagation by removing the older portion. One of the secrets of the trade growers is that constant propagation produces the healthy batches of plants so generally seen in their establishments, and in their exhibition groups.

Both parents of C. Hardyana are natives of Colombia. But a note may here be made with respect to the Cattleya aurea parent. By some authorities this plant is considered a distinct species, but others regard it as a geographical variety of the Costa Rican C. Dowiana. C. aurea grows only in Colombia, hence all the naturally produced forms of C. Hardyana are crosses between C. Warscewiczii and C. aurea. During comparatively recent years, C. Hardyana has been produced in England by crossing C. Warscewiczii with C. Dowiana, and although the resulting hybrids are very similar to the naturally produced forms of C. Hardyana, there have been a few noteworthy cases in which the petals have displayed somewhat richer coloration.

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OBITUARY.—By the death of Mr. P. R. Scott, Messrs. Sanders, of St. Albans, have lost the services of an old and valued employee, who had been with them since 1895. Previously he had been with Messrs. Cowan, of Liverpool, at their Gateacre Nurseries, then with Messrs. Bunyard, of Maidstone, from whom he came to Messrs. Sanders, taking the position of despatch clerk, and eventually becoming chief cashier. As with many other men in responsible positions, the late war evoked a severe strain, added to which was the loss of his eldest son, who died in Mesopotamia. Mr. P. R. Scott's death was caused by a sudden heart attack, and after a few days he passed away on September 5th, and was interred at St. Albans on the 8th. His loss is much regretted both by Messrs. Sanders and a wide circle of friends.

AUCTION SALE CATALOGUES.

THE collection of Orchids formed by John Russell, Esq., of Mayfield, Falkirk, was certainly an important one, as is proved by the sale catalogues preserved in the Editor's records of the past. The first portion, consisting of the cool-house section was disposed of by Mr. J. C. Stevens on April 5th, 1882. Although Lindley was the first to name and describe Odontoglossum crispum, this name was forgotten in later years when importations of living plants were received, for Bateman described it as a new species under the name O. Alexandræ, and Reichenbach called it O. Bluntii. Both of these names are frequently mentioned in the sale catalogue of Russell's collection.

Probably the finest of the cool-house specimens was Odontoglossum citrosmum, described as a magnificent specimen, over three feet across, with more than 180 flower buds, and a fine variety. Another was Maxillaria venusta grandiflora, "true, magnificent specimen, scores of flowers every year, more than five inches across, pure-white and deep purple." Bollea cœlestis is very rarely seen to-day in even the smallest example, yet Russell's collection contained a fine dark variety, which in the autumn of 1881 produced 30 flowers, surely a magnificent specimen. Oncidium incurvum measured two to three feet across, and is described as "makes a splendid autumn exhibition plant." There was also a plant of Selenipedium Sedenii, a very fine specimen, three feet across. Miltonia vexillaria was originally known as Odontoglossum vexillarium, and under the latter name this catalogue included several plants with "one strong blooming growth."

The second and principal portion of Russell's collection was sold by auction on May 9th and 10th, 1882. Saccolabium Blumei, now known as Rhynchostylis retusa, and Aërides Lobii were sold together for 31 guineas. Another plant of Aërides Lobbii, now regarded as A. multiflorum var. Lobbii, "with twenty strong leaves, branched and spiked variety," realised 17 guineas. *Zygopetalum* maxillare, "unique specimen, nearly three feet across, great bloomer, and grand variety," sold for 11 guineas. Two plants now included in the genus Rhynchostylis were "Saccolabium guttatum, narrow-leaved variety," and "S. guttatum Holfordianum, 12 leaves, nearly two feet across, spikes of the darkest colour;" these were sold together for 16 guineas. Angræcum sesquipedale, "late spring or early summer blooming variety, 18 splendid leaves, nearly 30 inches across, about 20 inches high," realised 17 guineas, the purchaser being Mr. Gaskell, of Cattleya Gaskelliana fame.

The genus Vanda was very well represented, as was customary in our forefathers' collections. Vanda suavis superba, with more than forty leaves to the main stem, and with two strong plants at the bottom, realised 14 guineas. V. suavis splendens, with 44 leaves, and a young plant at the bottom, and described as bearing from 18 to 20 flowers or more on a spike, was sold for 16 guineas. V. tricolor Russelliana, about 40 leaves, and with two strong young plants at the bottom, was purchased by Baron Schröder for 24 guineas. This particular variety was described as having two clear white lines down the centre of the lower petals, and frequently on the upper petal also. Baron Schröder also bought, for the sum of 20 guineas, "Saccolabium Blumei giganteum, about two feet high, more than 30 inches across, 26 grand leaves, showing five strong blooming spikes, magnificent variety, splendid exhibition plant." As previously mentioned this plant is now known under the name Rhynchostylis retusa. Mr. Gaskell purchased Vanda Lowii, over two feet high, and more than three feet wide, for 10 guineas, and Cœlogyne cristata Lemoniana for 25 guineas. The last-mentioned is described as the finest of the cristata varieties, and "blooms twice a year from the same bulbs, first in autumn, and then in spring, carries the longest spikes and most flowers." Other plants of Cœlogyne cristata measured four and five feet across.

Pescatorea Russelliana, 6 old growths and 4 strong young shoots, described as "flowers large, colours those of the species called lamellosa, the lip and tips of sepals and petals are of deep purple, the ground colour white, this is the only known plant," realised 13 guineas. Cattleya quadricolor (chocoensis) var. Sorleyanum, 23 bulbs, "lip rich rosy crimson, margined with white, two distinct yellow lines down the two lower sepals," sold for 13½ guineas, Sir Trevor Lawrence being the purchaser. The same amateur bought Cypripedium Lawrenceanum for 6½ guineas.

Oncidium ornithorhynchum album, 18 bulbs and four strong young growths, "one of the best plants in the country, and one of the most choice Orchids," passed into Baron Schröder's collection for 30 guineas. Lælio-cattleya exoniensis, 10 bulbs, "the highest coloured variety known, points of the sepals and petals are dipped in crimson," was bought by Mr. Gaskell for 24 guineas. Cœlogyne flaccida, more than two feet across, and described as "a most chaste variety of Cœlogyne, far in advance of most of the new ones," was sold with Cypripedium Dominianum, more than three feet across, for 6¼ guineas. This Cypripedium is described as "frequently five large flowers to a spike, side petals 10 to 12 inches in length." Lot 324 was Miltonia virginalis (probably M. vexillaria alba), "splendid specimen, 3 to 4 feet across, some of the varieties in this tub are all but the purest white, the least touch of colour only in the eye, in splendid health." M. Linden secured this lot for three guineas.

Mention may also here be made of Vanda tricolor formosa, Mr. Dawson's celebrated variety, main stem with from 50 to 60 leaves, and of V. tricolor Dodgsonii, 34 splendid leaves, which was obtained from Mr.

Anderson, of Meadowbank. These were both purchased by Baron Schröder, the former for 26 guineas, and the latter for 12 guineas. There was also a plant of Vanda tricolor Warneri, the identical plant presented by Mr. Warner to Mr. Dodgson, and the subject of a coloured plate in Warner's *Select Orchidaceous Plants.*

The second day's sale was not so important, but the following details are of interest. Dendrobium thyrsiflorum Walkerianum, described as "true, 20 bulbs, two to three feet high, spikes from 12 to 15 inches in length, or more, 40 to 60 flowers on a spike," was purchased by Baron Schröder for 50 guineas. Lælia elegans alba, now known as a Lælio-cattleya, "19 old bulbs, 4 strong young growths, splendid specimen, usually blooms twice a year," was sold for 42 guineas. Cattleya Russelliana, a variety of C. Trianæ, with 22 extra strong bulbs, nearly three feet across, and at the time considered as one of the finest Cattleyas introduced, realised 76 guineas, the purchaser being Col. Deare, who also secured Vanda Cathcartii for 12 guineas, and Dendrobium Ainsworthii for 42 guineas. The latter plant consisted of 27 bulbs, more than 30 inches high, and was said to be one of the best, if not the very best, plant in the country. In concluding the notes on this celebrated and truly wonderful collection of specimens, mostly species, mention may be made of Cymbidium elegans, with large clusters of from 20 to 30 flowers on one spike, of a warm primrose colour. "This was the most telling spike in the bouquet presented by Dr. Paterson to the Queen at Perth."

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Bulbophyllum fuscopurpureum.—This South Indian species was described and figured by Wight, in 1852, from materials collected by Mr. Jerdon, the locality being given as "Neilgherries, on trees and rocks along the banks of the Kartairy river below Kaitie, and also below Nedawuttim on the north-western slopes." It belongs to the small group of species characterised by having a pair of curved basal side lobes to the lip, but is very different from B. Careyanum, B. cupreum, and their allies in its very large flowers, and the fillament-like extension of the petals, which are clavate at the apex, and so delicate as to wave about in a slight breeze. The plant has a stout woody rhizome, and bears tetragonal yellowish one-leaved pseudo-bulbs, 1-1½ inches apart. The leaves are shortly petioled, oblong, about 3-4 inches long. The scapes are about six inches long, and bear six or seven flowers at the apex, these being over an inch across their broadest diameter, and the colour dull reddish-brown, the lip being rather darker than the rest of the flowers. It flowers with Mr. James O'Brien in 1907, when he remarked that the buds remain for some time concealed behind the rather large bracts, but afterwards the pedicels elongate and the flowers appear well extended.

EXPERIMENTS IN GENETICS.

A BOOK of considerable value to the many people now interested in the breeding of Orchids has made its appearance under the title, "Experiments in Genetics," by Charles Chamberlain Hurst, Ph.D., F.L.S., Cambridge University Press; 50/- net. It represents the collecting into one volume of the more important papers reporting the result of the author's experiments and researches in the Genetics of Plants, Animals, and Man carried out from 1894 to 1924. The collected papers I—XXXVIII., published 1897 to 1925, are arranged in chronological order, with the idea of illustrating as far as possible the natural development of the Science of Genetics during the last thirty years. The first four papers record Dr. Hurst's early experiments in the hybridisation of Orchids made before the dawn of the Mendelian era. These were inspired by the reading of Darwin's Fertilisation of Orchids, and in the light of Mendel these old experiments take on a new importance and significance.

"Curious Crosses," the subject of the first paper, originally appeared in the *Orchid Review*, 1897, pp. 179-180, 365-367, and 1899, pp. 13-15. The second paper is more extensive, and is headed "Notes on Some Curiosities of Orchid Breeding," being a lecture delivered before the Royal Horticultural Society, Oct. 12th, 1897, and reprinted from the Society's *Journal*, vol. xxi., pp 442-486. "Curiosities of Orchid Breeding," reprinted from *Nature*, LIX. (1898), pp. 178-181, is the subject of the third paper. After paying a tribute to Mr. R. A. Rolfe, who "has done yeoman service in reducing the chaos of natural hybrid Orchids to something like order," Dr. Hurst remarks, "And so it has come to pass that artificial hybridisation, which it was supposed would lead systematic botany into the direst confusion, by the irony of fate, seems destined to be the only trustworthy means of saving systematic botany from its own confusion; and the systematist, however orthodox he may be, can no longer afford to ignore artificial hybrids."

"Notes on some Experiments in Hybridisation and Cross-breeding" is the subject of a paper read at the First International Conference on Hybridisation, London, July, 11th 1899. It deals principally with Cypripediums, as regards the inheritance of specific and varietal characters, also the variation of primary hybrids and of secondary hybrids. The sixth paper deals with Mendels' Principles applied to Orchid hybrids, and is reprinted from the *Journal* of the Royal Horticultural Society, XXVII. (1903), pp. 614-624.

"Experiments in the Hybridisation of Orchids" is the title of chapter eight. This paper was read before Section K at the Southport Meeting of the British Association for the Advancement of Science, Sept. 12th, 1903.

"Inheritance of Albinism in Orchids" is a paper which originally appeared in the *Gardeners' Chronicle*, 1909, I., pp. 81-82. The subject is of great biological interest. After describing a large number of results obtained through crossing various albino Orchids, it is stated in the General Conclusions that "The above facts show that when true albino Orchids are mated together the result may be all albinos, all coloured reversions, or both albino and coloured forms from the same capsule."

With respect to the "Application of the Principles of Genetics to some Practical Problems" (chap. XXVIII.), the following paragraph is of special interest to Orchids breeders: "The solution of the present-day problem of raising a scarlet 'crispum,' or a scarlet Cattleya, would no doubt be much hastened by a simple application of the principles of Genetics. To be successful, it will no doubt be necessary to have the scarlet colour and the large size represented in the *gametes* of *both parents*. In the case of the scarlet 'crispum,' such a cross as Odontioda Vuylstekeæ mated with Odontioda Bradshawiæ should give the desired result in about one out of sixteen plants raised, provided the case is a simple one. In order to get rid of the purple tinge, it would be well to use O. nobile (Pescatorei) album and O. crispum xanthotes for the original grandparents, as these albinos are known to breed true when crossed."

Chapter XXXII. is devoted to "The Application of Genetics to Orchid Breeding," this being a paper read at the Second Orchid Conference, Nov. 6th, 1912, and reported in the *Orchid World*, vol. III., pp. 57-64, and 83-86.

We have only referred to the chapters dealing with Orchids. There are others devoted to Mendelian Heredity in Man, and to such important matters as the breeding of Racehorses and Utility Poultry. This extensive work, consisting of 578 quarto pages, is rendered specially attractive by the many additional whole-page illustrations, while the 175 figures, of which about 140 represent various Orchids, greatly assist the reader in following the explanations of the various experiments. The general get-up of the book is excellent.

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ANGRÆCUM DISTICHUM AND A. PECTINATUM.—Angræcum distichum, with several hundreds of its small, pure-white flowers, which have a delightful fragrance, is certainly a lovely object. It is an easily grown and free flowering species. Another charming little Orchid is Angræcum pectinatum, its small flowers being also white, and produced abundantly. Both plants thrive well in a shady part of the warmest house, and they grow freely in well-drained shallow pans, using chopped sphagnum moss, mixing a few small crocks with it for the roots to ramble into. These Angræcums prefer to be kept moist at all times.—*W. H. White.*

CULTURAL NOTES.

WHERE permanent shading has been used it should now be cleaned off, and everything done to secure for the plants the maximum amount of light. Plants should be raised well up to the light, by using inverted pots or other means, which also allows the air to circulate round them freely. Strong plants are by this means maintained in health, and weakly ones have a chance to recover. With the exception of the cool-house, the blinds should be taken down, when dry, and stored away, unless they are required as a protection against cold in the winter. On the cool house they may be required for a few hours during bright, sunny days. Where Cattleyas and Mexican Orchids are grown no shade should now be given. Air should be admitted as freely as the outside conditions permit, and less water will suffice for damping, unless much fire-heat is required. Water now with a good deal of care and discretion, for as the days shorten and become darker much less moisture is needed to keep the plants plump and healthy. Avoid draughts, which produce starved-looking plants with shrivelled up pseudo-bulbs, for such plants rarely fully recover. The above remarks apply equally to Oncidiums, Zygopetalums, Miltonias, Cymbidiums, Cypripediums, etc., excepting that the majority of these, being continually in a growing condition, will require a little more water at the roots, though with these also watering should be done carefully, for nothing whatever is gained by keeping any Orchids—whether growing or otherwise—too wet at the roots.—*J. Mackay.*

ATMOSPHERIC MOISTURE.—It has often been remarked by observant cultivators that certain Orchids appear to thrive better in dirty tumble-down houses than they do in comparatively new and clean ones, and the question is forced upon us whether it is altogether advisable to clean off the moss-like growth, etc., from the walls and stages. No doubt such accumulations give off and help to maintain moisture in the atmosphere in a more natural manner than can be obtained from damping a clean surface, for in the latter case the evaporation is quick and consequently spasmodic in its action, providing the surface be not damped frequently. However, we not only have to grow the plants under our care, but we have to set them off to the best advantage for the inspection of their owners and their friends, and to do this, we must have the plants' surroundings clean and tidy, whether it be to the advantage of the latter or not. Dirty glass I should never consider an aid to life and vigor in plants, excepting where heavy shading is needed in the summer, and even then the shading of the regulation order is better than dirt.—*W. H. Young.*

BACKWARD PLANTS.—When a house has been cleaned, the occupants should be arranged so that each one has its due share of light according to its known requirements, favouring those, if any favour be shown, that are still in a state of growth, so that they will in due course develop and mature the growth before its season of activity has expired. If there are a few plants of certain species that are behind in this respect, it is best to remove them to where a trifle higher temperature is kept up rather than raise that of the house they occupy.—*W. H. Young*.

Ventilation of the Cattleya House.—The night temperatures this month should be higher than would be required in December, even if that outside is the same, so that the reduction should be gradual until the winter minimum is reached. Plants that have been enjoying a free circulation of air would likewise greatly resent being deprived of it all at once, so that where an inch of top air has been given it may be reduced to half or a quarter of an inch, but give some as long as the outside conditions permit. It may be only possible to put it on for an hour, or even less, but even from such a short period as that much good will accrue.—*W. P. Bound*.

Watering.—Not only is it necessary to see that a change is made in shading, heating, and ventilating, but it is just as important as regards watering. Many plants will by now have practically finished up their growths, and such, if not producing flowers, will need but little in comparison to what they have been receiving. Others will need a fair supply to keep them on the move and finish up their growths, yet even these will not require anything like the same amount of water as they would have done if they were in the same state, say, in July. The days are now getting short, the light weak, and evaporation much slower, and all these things must be taken into account. If the houses are maintained as humid as possible, without causing undue condensation, the plants after a good watering will go for several days. It is a great mistake to be always looking over the plants to see if one is dry, unless it is those that resent dryness in any form at any season. If such a plant as a Cattleya was not dry enough for water say on Monday, it would take no harm if left till Thursday, and thus much time can be saved, and the plants better treated, than if they are looked over each morning.—*W. P. Bound*.

October.—This month is a most enjoyable one to the Orchidist. His labour of the past half-year now becomes apparent. It is his harvest, so to speak, and the better and the more judiciously he has worked, so also will be the results attained. The plants should now have completely overcome the momentary checks caused by divisions, repotting, etc., and be well provided with vigorous new roots, and in order to make one cheerful he has only to note day by day—and it is impossible for a lover of Orchids not to do so—the effect of all this upon his plants. Even on those species that have finished up their pseudo-bulbs for a considerable time, and are now more or less ripened up, new roots will still bristle and thread their way, making as it were a tufted mat on the surface of the fresh new compost, whilst those new pseudo-bulbs that are now forming, or have recently done so, will be observed to broaden and fill up rapidly, assuming proportions second to none of their ancestors in size and substance. These are signs of past good work and of present healthy conditions.—*H. A. Burberry.*

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ANSWERS TO CORRESPONDENTS.

SEED RAISING.—An amateur in the United States asks for up to date and specifically detailed instructions for the germination of Orchid seed without extensive laboratory equipment. The information required is by no means easy to give in a short reply. In the first place, the raising of Orchids from seed without laboratory equipment is generally considered out of date, for few, if any, of the commercial growers adopt any other means than the scientific process of sowing the seed in specially prepared flasks and tubes.

Horticulturists in days gone by obtained a fair amount of success in raising the seeds of certain genera, more especially those of Cattleya, Cypripedium and Dendrobium. The same opportunities exist to-day for those who care to follow their methods. While a commercial grower might be dissatisfied if he obtained less than a thousand seedlings from any one seed-pod, an amateur would feel well rewarded by the production of only a hundred seedlings, and, in the majority of cases, this would be all that he could make room for.

There is no doubt that in days gone by various methods were tried over and over again, and with ever-varying results. In most cases just a few seeds germinated, although never sufficient to convince the experimenter that he was on the right track. The best results were oftentimes obtained by sowing the seed on the surface of the compost surrounding the seed-bearing plant. Now a plant which has carried a seed-pod is generally one which has not been re-potted for at least a year, and on that account the compost may be exhausted or sour, and unsuitable for seed-sowing, hence the results obtained varied considerably.

When a plant is repotted with fresh material, the fungus usually present in the old mass of roots and compost soon spreads into the adjoining new material, and after a few weeks this newly-potted plant forms a most suitable subject for seed-raising. Sometimes the sphagnum moss requires cutting back with a pair of scissors in order that a clear area may be secured before scattering the seed on the surface. On no account should any compost be laid over the seed, for it does not require to be buried in the same style as ordinary garden seeds. The seed is so minute that great care must be taken when supplying moisture. A good way is to dip the pot to half its depth in water for a minute, or even less; the moisture thus obtained will gradually permeate the upper portion of the compost without disturbing the seed. Any heavy watering overhead is most objectionable. After a period of several weeks the seeds will assume a greenish and swollen condition, and, if all goes well, root hairs will be formed and the seedlings gradually grow into sufficient size for replanting into separate receptacles. A point to remember is that the seed should always be sown on the surface of the compost surrounding a plant of the same genus, for example, Cypripedium seed should be sown around a Cypripedium, not on a pot containing a Cattleya. Even in the best of results, a crop of seedlings must not be expected all at once; several weeks must elapse before the first signs of germination are plainly visible, and even months may pass before the final seedlings make their appearance.

From the above remarks it will be seen that a matter of supreme importance is the presence of the suitable fungus. As time went on, these primitive seed-raisers improved their methods, with a corresponding increase in the number of seedlings obtained. One of the improvements consisted of selecting vigorous seedlings, generally a few years old, and removing some of the fungus-infected compost from around their roots. This was then placed in well-drained pots or pans and covered with a piece of linen, sufficiently large to allow of the same being tucked in all round the inner side of the pot. It thus resembled a miniature cushion, of which the interior was filled with compost. A space of about an inch was left between the surface of the cushion and the rim of the pot. A piece of flat glass was laid on the top of the pot in order to preserve the internal moisture and to keep out as many insects as possible. After a few weeks to allow the fungus to permeate the contents and linen covering of this "cushion" the seed was scattered over the surface of the linen. Some cultivators tucked in a few living heads of sphagnum moss around the margin of the linen covering, and in many cases it was found that a greater number of seeds germinated on and around this zone of living moss.

Another method consisted of severing some of the living roots from a vigorous plant or seedling and mixing them in a compost of fibre and moss. This material was then placed in well-drained pots or pans, and the seed scattered over the surface. Sufficient space was allowed for the seedlings by not filling the pots quite up to the brim, and a sheet of glass covered the top. In theory this method followed the practice of sowing the seed on the surface of a recently potted plant, but it oftentimes gave better results because the seed could be protected by a glass covering. Stray seedlings make their appearance in the most unexpected places, such as on the brick wall of the house, on the outside of the flower pots, and, in fact, wherever suitable conditions exist.

NOTEWORTHY PLANTS.

AMONG the many noteworthy Orchids in the collection of B. J. Beckton, Esq., Irlams-o'-th'-Height, Manchester, the following have recently been in flower :—

Selenipedium caricinum, originally discovered by Bridges in Bolivia, from whose herbarium specimen it was named and described by Lindley. The specific name, from carex, refers to the sedge-like leaves. The flowers are borne 3-6 on erect scapes, the chief attraction being the linear petals, which attain a length of 4-5 inches, and are pendulous, twisted, white tinted with rose towards the tips, and with light green veins. It appears to have been first introduced to cultivation in 1863, through Pearce, and in former collections the name Cypripedium Pearcei was not uncommon. Mr. Beckton possesses a fine specimen which has recently produced no less than six spikes of bloom.

Selenipedium caudatum Wallisii is a distinct variety of S. caudatum, a plant occasionally grown under the name Cypripedium caudatum. Wallis discovered the variety bearing his name, in 1872-3, and a few years later the same form was found by Davis in the valley of Chinchao, Peru, growing on the limestone rocks in full exposure to the sun's rays and where the temperature during the twenty-fours hours of the day is very considerable. The flowers are somewhat smaller than the type, also paler and more delicate in colour. Mr. Beckton's plant carried a spike of four flowers, in which the unusually long petals form the principal feature.

Warscewiczella discolor is now a great rarity. It was discovered by Warscewicz in 1848 in Costa Rica, growing on Erythrina trees at 4,000-9,000 feet elevation. Only a few plants reached England, and one of these was acquired by R. S. Holford, Esq., and flowered in his collection at Westonbirt, Gloucestershire, in 1849, when it was described by Lindley under the name Warrea discolor. Reichenbach figured it in his *Xenia Orchidacea* as Warscewiczella discolor, but subsequently merged it in the genus *Zygopetalum*. The plant consists of a tuft of 5-7 leaves, varying from six to twelve inches in length. The flowers are two inches in diameter, ivory-white, the petals tinted with light violet on the apical half, the lip violet-purple with a paler margin. The several flowers on Mr. Beckton's plant made a very pretty sight.

Stanhopea ecornuta, so called from the absence of the horns of the labellum, was discovered by Warscewicz in the forests around San Toma in Guatemala, in 1845. The simple nature of the labellum, which consists of the hypochile only, renders it easily distinguishable from other Stanhopeas. The scapes are usually two-flowered. Each flower measures about three inches across vertically, the sepals and petals cream-white, the latter spotted with purple at the base, the lip being yellow deepening to dark orange at the base and on the inside. The column is semi-terete with two fleshy rounded wings, yellow. The unusual form of the labellum led Lindley to regard this plant as a monstrous state of some other species, but the constancy of the plants that subsequently flowered proved that such was not the case. Reichenbach even went so far as to propose for it a new genus under the name of Stanhopeastrum, but this he soon after abandoned. We are without any information as to how long Mr. Beckton's plant has been under cultivation.

Acineta Barkeri was originally discovered by Ross in a dark ravine in the neighbourhood of Xalpa, in Mexico, in 1837, and sent by him to Mr. Barker, in whose garden at Springfield, near Birmingham, it flowered in the following year. When well grown the pendent racemes attain a length of 15 inches, and bear an equal number of flowers, which are fragrant. The individual flowers are 1½ inch in diameter, bright yellow with a sanguineous spot on the lip, and a few red spots at the base of the petals.

Miltonia Schrœderiana is another of the interesting species which have recently flowered in Mr. Beckton's collection. When first described, in 1887, it was classified as an Odontoglossum, but two years later was correctly referred to the genus Miltonia. The sepals and petals are chestnut-brown tipped and marked with light yellow, the labellum milk-white, the base half stained with rose-purple. It was first imported by Messrs. Sanders, from Central America, and is illustrated in the *Orchid Review*, vol. xxxii., p. 337.

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LÆLIOCATTLEYA COPPER KING.—When Sir Jeremiah Colman exhibited Læliocattleya Copper King on October 4th, 1921, it received a R.H.S. Award of Merit on account of its unusual colour—reddish-copper. The parentage was then given as C. Oberon (Fabia × Hardyana) × Lc. Phœbus (C. Iris × Lc. Cappei), but as an earlier name for Fabia × Hardyana exists in C. Princess Royal the record was amended to Lc. Copper King (C. Princess Royal × Lc. Phœbus). Unfortunately, the correction could not be made in the printing of Sanders' "List of Orchid Hybrids," where by error the first parent of Lc. Copper King is given as Lc. Oberon. But an "Errata" note included in each copy of the work draws attention to the error and makes the necessary correction. Læliocattleya Copper King has also been raised in the collection of Dr. Miguel Lacroze, Bryndir, Roehampton, S.W., and some of the early results have fully rewarded the work undertaken. One of the best flowers has golden-yellow sepals and petals, which for the yellow section of hybrids may be considered as well above the average dimensions. The labellum has a deeper tint of gold on the middle area, while the front and lateral lobes are suffused with crimson-rose. Its attractive qualities give considerable promise of other fine varieties being obtained.

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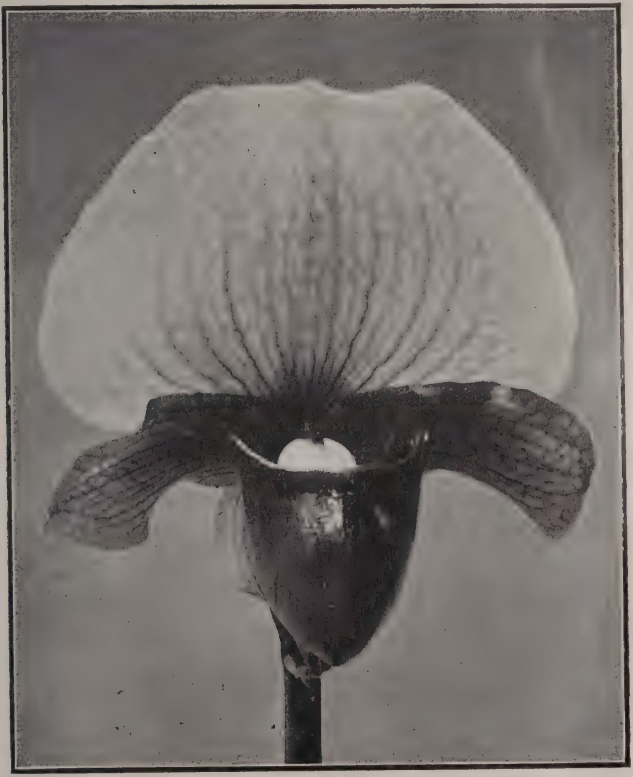
CYPRIPEDIUM CHARLESWORTHII.

THE exhibiting of Cypripedium Charlesworthii at the meeting of the Royal Horticultural Society on September 26th, 1893, was an event of importance, for this plant has ever since been a great favourite with amateurs. Our reproduced photograph shows the general formation of the flower, the principal feature of which is the unusually large dorsal sepal of rose colour. Another distinctive point is the ivory-white staminode, with its curved horn-like tooth near the apex. This species was discovered by Mr. R. Moore, who, in describing the Orchids of the Shan States, in 1895, gave the following information :—

" Cypripedium Charlesworthii was found growing at a place some twenty-five miles south-west of Lake Inle, high up on a limestone hill, fully 5,000 feet above sea-level. It had also been gathered in quite an opposite direction, forty miles north-east of the lake, or some sixty miles from the place in which it was originally found. It appears to make its home on hills of a certain formation only. In a break in a range of hills there are isolated peaks, high and precipitous, inaccessible to Europeans, and it is here that it grows. I have been out with Shans, and on arriving at a particular place they, by looking at the hill, will tell you whether C. Charlesworthii will be found there or not. If it occurs at all it will be in arge quantities, and not a plant will be found on neighbouring hills of different shape or formation. It grows fairly high up on the west and north-west slopes only, never near the base or to the east, south or south-west. The roots cling to the rocks with extraordinary tenacity, and the bigger plants could only be gathered by cutting through the roots with a dah, or Burmese knife. As a rule there is plenty of under-growth around, but I have seen plants growing in crevices of the bare rock. It grows at a higher level than C. bellatulum, but on one ocasion I think I saw C. Charlesworthii and C. bellatulum growing together. I have also seen Dendrobium Dalhousieanum and other Dendrobiums with a piece of C. bellatulum attached to the roots, and the same thing with C. Charlesworthii."

" The places where C. Charlesworthii grows are, as a rule, far removed from villages; indeed the whole country is very sparsely populated. It is the home of the tiger, the bear, wild boar, leopard (cheetah), and of huge snakes; and, in consequence, the collecting of the plant is attended with a good deal of danger. The Shans will go out in parties of about ten, and take with them gongs, which are beaten to scare away the wild beasts. When I first collected it in quantity I had thousands of flowers, and some of them were of great size. I little dreamt at the time that it was a new Orchid. It flowered in England at the same season as it does in Burma."

C. Charlesworthii album was exhibited by Messrs. Charlesworth & Co. at the meeting of the Manchester Orchid Society held September 6th, 1900, when it received a First-class Certificate. C. Charlesworthii Bromilowianum obtained a similar award when shown by H. J. Bromilow, Esq., at the meeting of the Royal Horticultural Society held October 13th, 1908. It was described as a very beautiful albino, having the dorsal sepal pure white with a small green marking at the base, the petals and lip pale green, without any trace of the usual brown markings, and the staminode porcelain white. Unfortunately, this distinct albino does not possess a robust constitution, and its consequent rarity is a matter of regret. Could it be re-imported? Some of the rare albino species have been raised true from seed in European countries, and there is no reason why the albino form of Cypripedium Charlesworthii should not be likewise increased, and with profitable result.



CYPRIPEDIUM CHARLESWORTHII.

ROYAL HORTICULTURAL SOCIETY.

September 8th, 1925.

MEMBERS of the Orchid Committee present:—Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), Stuart H. Low, Richd. G. Thwaites, E. R. Ashton, T. Armstrong, John Cowan, W. H. Hatcher, J. E. Shill, H. G. Alexander, H. H. Smith, A. Dye, and H. T. Pitt.

Awards of Merit.

Odontoglossum Enchantress (Anzac × Colossus); from Ernest R. Ashton, Esq., Broadlands, Camden Park, Tunbridge Wells. This handsome hybrid bore an arching spike of eleven large flowers having the segments broadly developed, rose tinted, and effectively blotched with reddish-purple; the labellum is widest at the apical area, and white with a red-brown blotch on the central area, the spiny crest being of bright yellow colour. In general, the flower somewhat resembles the amabile form, but is much more fully developed.

Læliocattleya Senator var. Titanic (Lc. H. T. Pitt × C. Tityus); from Messrs. Black & Flory. A remarkably fine flower of unusual size. The sepals and petals are rosy-mauve in colour, the latter slightly crisped at the apical margin, the expansive labellum having the front portion completely covered with a rich velvety crimson colour, while each of the side lobes bears a yellowish disc derived from Cattleya Warscewiczii, one of the parental species.

Groups and Other Exhibits.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver-gilt Banksian Medal for an interesting exhibit, in which the richly coloured Miltonia Wm. Pitt and distinct forms of M. Hyeana stood out prominently. Another rarity was seen in Miltonia spectabilis var. extraria, which received an Award of Merit on October 17th, 1922. Cypripediums were well represented in Maudiæ, Boltonii, Baron Schröder var. ardens, and Chas. Canham, the latter with three well-developed flowers. Bulbophyllum barbigerum and B. Galbinum were both in fine form, while Brassolælia Thwaitesii and Cœlogyne Veitchii received attention. Other interesting plants were staged in Angræcum Scottianum and Phalænopsis Esmeralda.

Messrs. Sanders obtained a Silver-gilt Banksian Medal for an extensive exhibit, containing many well-flowered plants of Vanda cœrulea. Sophrolæliocattleya Renown, with reddish sepals and petals, stood out prominently, as also did Masdevallia Chimæra and M. Calura. Cattleyas were represented by nivea, with whitish flowers, Mont Blanc, with roundly-formed flowers and pure white, Loddigesii, and Lindley (Venus × Fabia). Læliocattleya

Black Prince, yellowish, with bronze suffusion, and Lc. President Wilson, yellow, with golden lip, were both attractive. Among the Oncidiums were well-flowered examples of Forbesii, Papilio, and Harrisianum, while Cypripedium Godefroyæ and Angræcum Scottianum were effectively arranged in the front row. In the centre was a robust plant of Stanhopea insignis with 15 flowers.

Messrs. Stuart Low & Co. were awarded a Silver Banksian Medal for an exhibit containing fine examples of Brassocattleya Olympus, Læliocattleya Golden Wren, and Lc. Soulange. Among the Cattleyas were well-flowered examples of Hardyana and its variety alba, Coronet, Albion, with pure-white flowers, Gaskelliana alba, and Dupreana, the latter with a spike of three large flowers. Miltonia Clowesii and M. spectabilis were in the front portion, while at the back were Selenipedium grande atratum and S. macrochilum, both plants bearing several flowers in which the conspicuous feature was the long-tailed petals.

Leonard Dixon, Esq., Willoughthorpe, Stanstead Abbots, staged Cattleya Thebes var. L. Dixon, a large flower of bronze-buff tints, the labellum coloured with crimson.

Baron Bruno Schröder, Englefield Green, Surrey (gr. Mr. J. E. Shill), exhibited Brassolæliocattleya Irma (Blc. The Baroness × Lc. Golden Queen), a remarkably fine hybrid, the roundly-formed flower having the sepals of clear canary-yellow colour, the petals somewhat lighter, and the labellum golden-yellow with a pretty rose coloured margin and venation of the same colour in the tube portion. Blc. Salta (C. Suzanne Hye × Blc. The Baroness), of very pleasing qualities, was also shown.

Messrs. Black & Flory exhibited Læliocattleya Strathmore (Lc. Soulange × C. Hardyana), a roundly-formed flower of rosy-mauve colour, the labellum purplish and marbled with a deeper colour. Also Cattleya Lysander var. Mimosa (triumphans × Rhoda), yellow, except for the ruby-coloured labellum, which has gold veining.

September 22nd, 1925.

On this occasion the Orchid Committee met at the R H.S. Show Holland Park Hall, when the following members were present: Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), Fredk. J. Hanbury, H. G. Alexander, Richd. G. Thwaites, F. K. Sander, H. T. Pitt, T. Armstrong, J. E. Shill, C. H. Curtis, John Cowan, S. W. Flory, A. McBean and Stuart H. Low.

Awards of Merit.

Cattleya Mimosa superba (Venus × triumphans), from Messrs. Cowan & Co. An attractive hybrid with the sepals and broad petals of bright golden-yellow colour, the labellum much expanded at the apex, crisped at the margin, and light crimson in colour, the comparatively small lateral lobes envelope the whitish column.

Cattleya Tagus var. King George (Rhoda × King George), from Messrs. Black & Flory. A distinct hybrid with bright lemon-yellow coloured sepals and petals, the latter broadly developed and well set, the labellum intense crimson-purple, the margin crisped, and the middle area of the throat obscurely veined.

Cattleya amabilis alba, Low's variety (labiata × Warscewiczii), from Messrs. Stuart Low & Co. An excellent hybrid which bore a spike of three large flowers, the sepals and petals prettily formed and pure-white, the labellum with the front portion of bright purple colour, surrounded by a narrow white margin.

Læliocattleya Profusion var. Adriatic (Lc. Serbia × C. Hardyana), from Messrs. J. & A. McBean. Probably the finest example of this free-flowering hybrid. The vigorous plant bore a spike of four large flowers, of rosy-mauve colour, the lip purplish and with a light cream-coloured area on each lateral lobe.

Cultural Commendation.

Cypripedium Fairrieanum, Bodnant var., from Lady Aberconway and the Hon. H. D. McLaren, Bodnant, Tal-y-Cafn, N. Wales. An excellent example of this pretty species, the two flowers larger than the type, the dorsal sepal being two inches in width. The plant was imported five years ago, and has been brought to its present state by Mr. F. C. Puddle, to whom a Certificate of Cultural Commendation was given.

Groups and Other Exhibits.

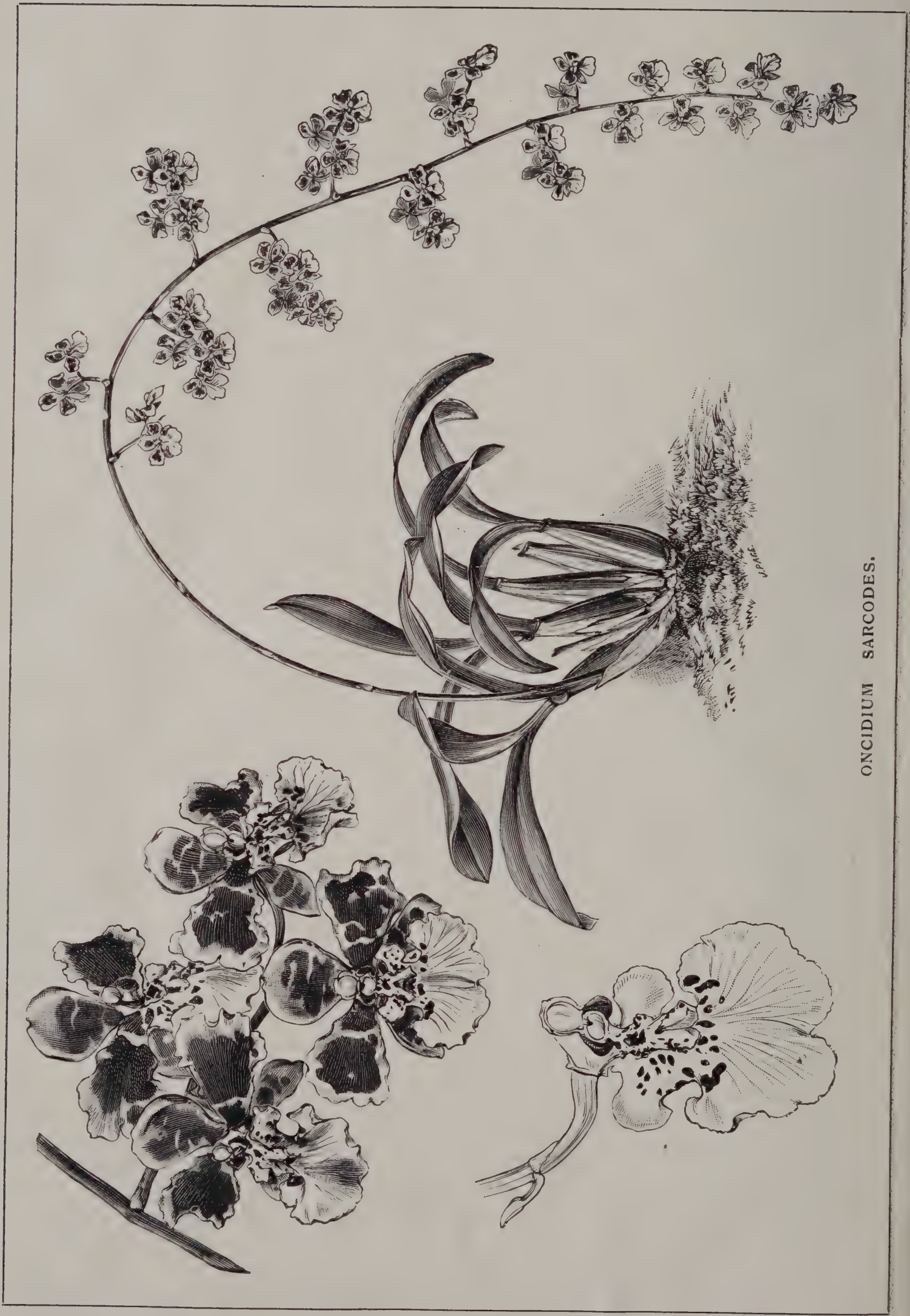
Messrs. Stuart Low & Co. were awarded a Silver-gilt Flora Medal for an extensive exhibit of choice Orchids. Among the Cattleyas were excellent examples of Hardyana, some with white sepals and petals, also Kienastiana, richly coloured, and Oeneus, of golden tints. Cattleya Loddigesii alba with pure-white flowers of thick texture, and many selected varieties of C. Gaskelliana alba made a pleasing contrast to the mauve coloured flowers. Læliocattleya Profusion bore a tall spike of five large flowers, and there were numerous examples of Lc. Soulange. Interesting species were seen in Cymbidium erythrostylum, Lælia Dayana delicata, Miltonia Clowesii, and Odontoglossum Uro-Skinneri album. Along the back row were various Oncidiums, of which O. oblongatum and its unspotted variety, known as oblongatum citrinum, were prominent. Although somewhat early in the season for Cypripediums, there were well-flowered plants of C. gigas, C. Rossettii, and Boltonii. Hybrids of Brassavola Digbyana were seen in Bc. Digbyana-Mossiæ, cream coloured, in Blc. Miss Eileen Low, of purplish-mauve colour, and Blc. The Baroness, of golden-yellow colour.

Messrs. Cowan & Co. were awarded a Silver Flora Medal for an attractive exhibit containing a varied selection of the popular hybrids. In the central area were Miltonia Princess Mary, with charming flowers, M. Bleuana grandiflora, white, except for some yellow rays on the base of the labellum, and a slight tint on the petals, as well as M. Angela, with an effectively blotched labellum. Cypripediums were well staged in leyburnense magnificum, with the dorsal sepal of deep purplish colour, and in gigas, Corndean Hall var., with the flowers on unusually tall spikes. Cattleya Sibyl and C. Hardyana were in fine form, while C. amabilis alba stood out prominently on account of the contrast made by the richly coloured lip against the white sepals and petals. In the foreground were the handsome Cypripedium Bedfordiæ and C. Royal George. Læliocattleya Hassallii alba bore large flowers with white sepals and petals, Lc. Queen Mary carried four attractive flowers of bright mauve colour, and Lc. luminosa aurea had the sepals and petals of light yellow colour. A pretty flower was staged in Sophrolæliocattleya Vesta, and a novelty in Slc. Rhoda (S. grandiflora × Lc. Epicasta).

Messrs. Black & Flory received a Silver Flora Medal for a very bright group composed of numerous hybrids of the yellow section. Of special merit were Cattleya Diana, with yellow sepals and petals and a crimson labellum, C. Sibyl, yellow, the labellum having an elongated isthmus and crimson apex, as well as many examples of Cattleya Lysander, of which the variety Golden Queen was the best. A charming flower was seen in Cattleya Lysander var. Crusader, of light terra-cotta tinting, the labellum beautifully veined and suffused with light crimson. Læliocattleyas were also effective, and included one named Warrior, with majestic flowers of rosy-mauve colour, while others of equal merit were staged in Carmencita, yellow sepals and petals, the lip ruby-crimson, and Jean, of pretty formation. Cirrhopetalum Rothschildianum came in for well deserved attention. Brassocattleyas were much in evidence, the large flowers being specially noteworthy in the varieties Ilene, Strathmore, and Dietrichiana. A pair of elegant hybrids may be mentioned in Cattleya Elanore and C. Hardyana both with white sepals and petals.

Lady Aberconway and the Hon. H. D. McLaren, Bodnant, Tal-y-Cafn, N. Wales (gr. Mr. F. C. Puddle), exhibited Cypripedium Psyche var. The Pearl (bellatulum × niveum), a beautiful flower of porcelain-white nature, the broadly-formed segments having a few minute spots on the basal area of each petal, while on the dorsal sepal the spotting is obscurely visible in vertical veining.

Messrs. Sanders exhibited Brassocattleya Boadicea var. Verulam (Bc. Digbyano-Schrœderæ × C. Warscewiczii), an unusually large flower of mauve-pink colour, the throat yellowish.



ONCIDIUM SARCODES.

MANCHESTER ORCHID SOCIETY.

At a meeting of the Society held in connection with the Southport Flower Show on August 26th, the members of the Committee present were J. McCartney, Esq. (in the Chair), Messrs. W. Beesley, A. Burns, J. Evans, A. G. Ellwood, G. Giles, A. Keeling, J. Lupton, E. W. Thomson, H. Arthur (Secretary), and J. Thrower (Visitor).

Messrs. J. & A. McBean were awarded a Gold Medal for a magnificent display of Odontoglossums in variety, Cattleyas and Læliocattleyas. Also fine examples of Vanda cœrulea delicata, and V. cœrulea var. Blue Bird. This group secured one of the premier awards in the Show.

The Hon. G. E. Vestey, The Warren, Birkdale (gr. Mr. Collins) staged a group to which a Large Gilt Medal was awarded. It included Odontiodas in variety, several fine Odontoglossums, of which O. hastilabium gained a Cultural Certificate, as well as Cattleyas, and various hybrids.

Messrs. Charlesworth & Co. were awarded a Large Silver gilt Medal for a group containing well flowered plants of Dendrobium Phalænopsis, Odontonias in variety, Miltonia Bleuana in many select forms, Cattleya Dupreana, and C. Hardyana alba. Læliocattleyas were also well staged.

Mr. J. Evans, Colwyn Bay, staged a group to which a Large Silver Medal was awarded. It comprised Odontoglossums in variety, such as The Queen, Pyramus, and amabile. A nice variety of Vanda cœrulea and Dendrobium Phalænopsis were also included.

J. McCartney, Esq., Bolton (gr. Mr. C. F. Potts) was awarded a Silver-gilt Medal for a group composed of Cattleyas in variety, including C. Carmencita aurea and C. Atalanta, as well as Odontoglossums and Cypripediums in variety.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), were awarded a Silver-gilt Medal for an interesting group composed of 18 plants of Cypripedium Maudiæ magnificum, as well as Cyp. Ernest Read, Cyp. Frau Ida Brandt and C. callo-Rothschildianum. Two very interesting species were staged in Cycnoches chlorochilon and C. ventricosum.

Messrs. Sanders were also awarded a Silver-gilt Medal for a group containing Cattleya Hardysius var. Midas, C. Venus and C. triumphans var. brugensis. Læliocattleya Feronia and Slc. albanensis were both attractive. Among the species were fine examples of Stanhopea insignis, Oncidium papilio and Bulbophyllum barbigerum.

A. Hanmer, Esq., Buxton (gr. Mr. G. Giles) staged Cattleya Juno var. The King, and C. Venus var. Enchantress, as well as Odontoglossum crispum var. Fairy Queen.

P. Smith, Esq., Ashton-on-Mersey (gr. Mr. E. W. Thompson) exhibited Cypripedium Godefroyæ, Haddon House var., Odontoglossum Madeline var. Ruby Queen, O. Woodroffeæ, and Catasetum fimbriatum, Dovercourt var.

Messrs. A. J. Keeling & Sons staged Cypripedium A. de Lairesse, Cyp. D. S. Brown, Odontoglossum Harryanum, the pretty Miltonia Lambeauiana, Cattleya Hardyana alba, and others.

J. B. Adamson, Esq., Blackpool (gr. Mr. C. Dickson) staged Læliocattleya Nanon var. Perfection; H. T. Pitt, Esq., exhibited Læliocattleya Britannia var. majestica; Col. Sir J. Rutherford, Bart. (gr. Mr. J. Lupton), staged Lælio tenebrosa, Walton Grange variety; and Mr. D. McLeod, Chorlton-cum-Hardy, exhibited Cypripedium Rossettii var. Goliath.

FIRST-CLASS CERTIFICATES.

Læliocattleya Profusion var. Celtic (C. Hardyana × Lc. Serbia), a magnificent flower, of even colour, very broad well-set petals, the large lip deep maroon, the margin frilled; from Messrs. J. & A. McBean.

Læliocattleya Profusion var. Baltic, similar to the above, but paler in colour; from Messrs. J. & A. McBean.

Vanda cœrulea delicata, flower pale pink with bright red lip; from Messrs. J. & A. McBean.

Cattleya Carmencita var. Golden Beauty, a well-set flower of thick substance, golden yellow sepals and petals, and deep maroon lip; from J. McCartney, Esq.

Læliocattleya Britannia var. majestica, a nice well-formed flower, white sepals and petals, maroon lip and yellow throat; from H. T. Pitt, Esq.

Cypripedium Godefroyæ, Haddon House var., the finest flower yet seen in the North of England, the segments roundly formed and handsomely spotted; from P. Smith, Esq.

Odontioda Columbia (Oda. Alcantara × Odm. St. James), this plant bore a lovely spike of 52 flowers and buds; from Messrs. Charlesworth & Co.

Odontoglossum The Queen, a large well-set flower with fimbriated segments, almost solid heliotrope in colour, light spotted and marbled, the large lip with a white apex; from Mr. J. Evans.

AWARDS OF MERIT.

Læliocattleya Nanon var. Perfection; from J. B. Adamson, Esq.
Odontoglossum Madeline var. Ruby Queen; from P. Smith, Esq.
Odontioda Gladys; from the Hon. G. E. Vestey.
Cattleya Hardysius var. Midas; from Messrs. Sanders.
Vanda cœrulea var. Blue Bird; from Messrs. J. & A. McBean.

AWARD OF APPRECIATION.

Læliocattleya Vega (Soulange × Rubens); from Messrs. J. & A. McBean.

Cultural Certificates.

Mr. B. Collins, for Odontoglossum hastilabium.

Mr. C. F. Potts, for Cattleya Atalanta (also Silver Medal).

Messrs. A. J. Keeling & Sons, for Cypripedium A. de Lairesse.

September 18th, 1925.

Members of the Committee present: Messrs. A. Burns (in the chair) A. Coningsby, J. Evans, G. Giles, A. Keeling aud H. Arthur (Secretary).

Mr. A. Hanmer was elected Chairman of the Committee, and Mr. John Cypher Vice-Chairman.

First-class Certificate.

Odontoglossum Ardenticity (ardentissimum × Felicity). A model flower of splendid formation, heavily and evenly blotched with deep maroon; from A. Hanmer, Esq.

Awards of Merit.

Odontoglossum var. Prince Arthur, large flower, white, with one blotch on each segment; from A. Hanmer, Esq.

Cattleya labiata var. Prince of Wales, a very pretty form, white sepals and petals, lip coloured; from Capt. Wm. Horridge.

Cultural Certificates.

Mr. G. Giles, for Odontoglossum crispum var. Prince Arthur, O. St. Edmund, and Odontioda Bradshawiæ.

Mr. A. Burns, for Odontoglossum grande.

Groups and Other Exhibits.

A. Hanmer, Esq., Buxton (gr. Mr. G. Giles), was awarded a Silver-gilt Medal for a group of well-grown plants, including Odontoglossums in variety, Odontiodas, Cypripedium Gaston Bultel var. King Edward VII, C. Rossettii, and others.

Mrs. Bruce and Miss Wrigley, Bury (gr. Mr. A. Burns), staged a group to which a Silver Medal was awarded. It contained Cypripedium Ernest Read, C. Lord Roberts, Lycaste tricolor albens, Cattleya Soulange and Odontoglossum grande.

Capt. Wm. Horridge, Bury (gr. Mr. A. Coningsby), exhibited Cattleya labiata var. Prince of Wales, Miltonia Wm. Pitt var. Prince of Wales, and Cycnoches peruviana.

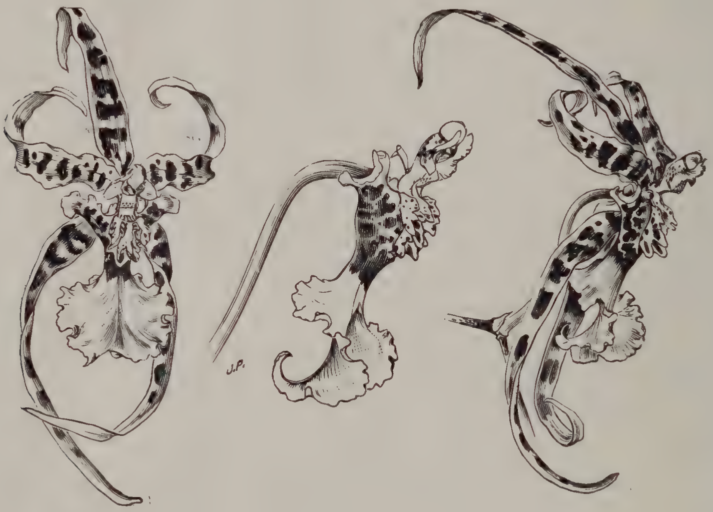
Mr. John Evans, Colwyn Bay, staged Cattleya Loddigesii alba, Stanley's var., Cattleya Astron gigantea, Odontoglossum Orestes, and others.

◆

Cœlia densiflora.—This species is allied to C. Baueriana, but differs in having a very short dense inflorescence. It flowered in the Royal Botanic Gardens, Glasnevin, having been obtained from Messrs. Cowan & Co. The flowers are white, with a light yellow anther case.

ONCIDIUM PHYMATOCHILUM.

THE Brazilian species was first cultivated by the Rev. John Clowes, of Broughton Hall, Manchester, whose name is perpetuated in Anguloa Clowesii, and by Messrs. Loddiges, of Hackney, about the year 1840. The specific name refers to the tumour or crest on the labellum. The flowers bear a resemblance to those of Odontoglossum nævium, as far as the sepals elongated and petals are concerned, but the labellum is much broader. The scapes are 3 to 5 feet long, loosely paniculate. Flowers two inches in diameter, sepals and petals pale yellow banded and spotted with brown, but sometimes ivory-white spotted with orange-red, lip white spotted with red around the crest, the crest many toothed, the three front teeth much the largest. It usually flowers during the months of May and June, lasting some time in perfection. An intermediate temperature is advisable, or, if this cannot be provided, a place in the warmest part of the Odontoglossum house.



ONCIDIUM PHYMATOCHILUM.

* * *

Lælia purpurata.—This well-known species was first discovered in 1847 in the Province of Santa Catherina, in Southern Brazil, by François Devos. It flowered for the first time in England in Messrs. Backhouse's nurseries at York. It possesses a robust constitution, and on that account was much used for hybridisation in the early days. In the Temple Shows of years gone by, it was frequently seen, not only in large specimens, but in fine varieties also.

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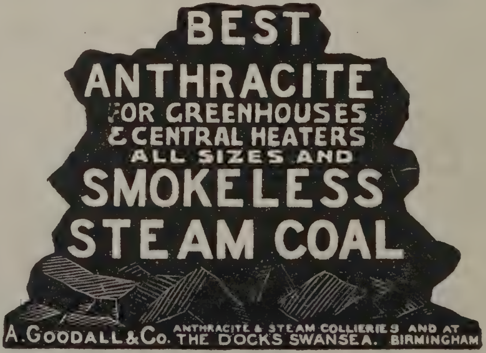

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THE ORCHID REVIEW.

VOL. XXXIII] NOVEMBER, 1925. [No. 389.

NOTES.

OPHRYS APIFERA.—In an article on "Bee Orchids," published in *The Times* of September 29th, it is mentioned that "The Southdown sheep do not touch them, but, cropping all round them, leave them dangerously exposed; and on a favourite pasture which has been cropped so close that no mower could trim it finer, there the Bee Orchids, venturing to raise a blossom but 2in., show conspicuous, and so we find them." This was followed by the publication on October 1st of a letter from Mr. Newton Braby, Pennington Hall, Southborough, Kent, who remarks that "It seems highly probable that the Bee Orchid and other flowers which look like insects are, in consequence, almost entirely immune from the attacks of grazing animals." On October 3rd a further letter appeared, and this from the Rev. George Engleheart, Little Clarendon, Dinton, Salisbury, who states, "Your correspondents are surely mistaken in saying that this flower's likeness to an insect makes the grazing sheep avoid it. Certainly our black-faced 'Hampshire Down' sheep eat off whole breadths of it in this neighbourhood, where it abounds on the chalk, when they happen to be pastured on it in the blooming time. . . . Perhaps the best explanation of this mimicry is that it makes the humble-bee avoid the flower as already occupied by another bee, and so assists the plant in its preference for self-fertilisation."

———

CŒLOGYNE PANDURATA.—In the issues of the *Orchid Review* for July and September, and in the *Gardeners' Chronicle* of August 29th, are some notes about Cœlogyne pandurata, Lindl. It may be of interest to hear that I have a quite different opinion with respect to the rooting medium for this plant than the authors of the three articles. When I bought my plant five years ago, it was planted in Osmunda fibre and moss, and the leaves were about 15 inches long. In the September issue of the *Orchid Review* it is stated that the leaves of a well-cultivated specimen often attain a height of 18 inches. For the last three years I have grown Cœlogyne pandurata in Sphagnum moss with some pieces of charcoal in the bottom of the basket, but *without fibre*, and the leaves are now 24 to 28 inches long and 6 to 6½ inches wide. The bulbs measure 5½ by 3 inches. One specimen plant has 21 bulbs and 7 new shoots. It produced 4 flower spikes last spring with 49 flowers. These are pale yellowish green, streaked with dark chocolate-brown, and more like the flowers of Cœlogyne Brymeriana than of the true type of Cœlogyne pandurata.—*Otto Salmonson*, 30, *Bondegatan*, *Stockholm*, *Sweden*. [Mr. Otto Salmonson kindly sends a photograph of a remarkably fine specimen of Cœlogyne pandurata, growing in a wooden basket, and displaying a very vigorous condition.]

SERAPIAS GIGANTEA.—In an article on "Some of Canada's Wild Flowers," by the Lady Byng of Vimy, published in the R.H.S. *Journal*, Vol. l., pt. 2, the following descriptive note occurs regarding Serapias gigantea :—"To my immense delight I found, at Fairmount Hotsprings in the Columbia Valley, B.C., a big colony of Stream Orchis, or Chatterbox (Serapias gigantea), long stemmed plants, hung with little blooms, which from their tremulous movements reminded me of old women insun bonnets, with hooked noses and chattering jaws busy retailing their neighbours' affairs—an appearance which has probably gained for them the nick-name of 'Chatterbox.' Some botanists claim this Orchis as being identical with one growing in the Himlayas."

YELLOW CYPRIPEDIUMS.—Many crosses have been made with the intention of producing improved Cypripediums of yellow colour, and the most satisfactory results show that C. insigne Sanderæ is the best variety to work on. One of the early hybrids in this section is C. Actæus var. Bianca (insigne Sanderæ × Leeanum), although it frequently passes under the abbreviated name of Cypripedium Bianca. The next stage was seen in C. San Actæus (Actæus × insigne Sanderæ), and still another step forward in C. Sanacderæ (insigne Sanderæ × San-Actæus). The majority of C. insigne hybrids are easy to culivate and flower freely during the autumn months. An exception seems to be C. Actæus var. Bianca, and with respect to it, Mr. John Evans, of Colwyn Bay, says it requires more care, but grows well in his locality when potted in all loam.

DENDROBIUM FORMOSUM.—This popular species was introduced to European gardens from the Khasia Hills by Gibson, who sent it to Chatsworth in 1837, where it flowered in May of the following year. The cylindric stems are nearly as thick as the little finger, leafy and clothed with blackish hairs when first developed, but furrowed and bare when mature. The flowers are white with an orange-yellow blotch on the lip, 3-4 inches in diameter, produced in fascicles of 3-5 from the axils of the uppermost leaves.

ORCHISERAPIAS TRILOBA (Viv.) Godf. AND ORCHISERAPIAS PISANENSIS Godf.

By Colonel M. J. Godfery, F.L.S.

On May 1st, 1924, on the Western slopes of Monte Pisano, near Pisa, Italy, three specimens of what was evidently a hybrid between an *Orchis* and a *Serapias* were found by my wife and me, their resemblance to the well-known hybrids between *Orchis laxiflora* and *Serapias neglecta* leaving no doubt on this matter. They grew on grassy terraces, about 500 ft. above the plain, at considerable distances from each other, and, as is usual with hybrids, differed somewhat amongst themselves. *S. neglecta* was abundant in the locality and *S. lingua* rare, and as all other species were absent, the *Serapias* parent was narrowed down to one of these two. They differed in appearance from Camus' figure of *S. lingua* × *O. papilionacea* (Mon. Orch. Eur. p. 12, f. 337) and his description says that there is a single blackish callosity at the base of the lip in the latter, as in *S. lingua* (l. c., p. 65). There was no sign of this in the hybrid, but the thickened edges at the base of the lip ran up and joined the column, closely resembling the two calli of *S. neglecta*, the channel between them being continued down the lip. This evidence is strongly in favour of the parentage of *S. neglecta*. The other parent was almost certainly *O. papilionacea*, which was abundant. The denticulate edges of the lip, due to the darker veins ending in a minute tooth, as well as its rose-red colour (not magenta, as in *O. laxiflora* × *S. neglecta*) gave clear indications of *O. papilionacea*. It should be noted that *O. laxiflora*, though plentiful in the marshy ground in some parts of the plain below, was entirely absent from the terraces where the hybrid grew. Being essentially a water-loving plant, it does not occur on dry hillsides. It is quite clear that it could not have been one of the parents. *Orchis morio* and *O. provincialis* were frequent on the terraces, and there were a few plants of *O. tridentata*, *O. maculata* and *Neotinia intacta*, but there was nothing in the hybrids to suggest the influence of any of these. One of the three specimens had the narrow curly leaves of a *Serapias*, another the shorter broader leaves of an *Orchis*, but not the erect long narrow leaves of *O. laxiflora* (hence sometimes called *ensifolia*). Dr. Keller states that there is a specimen of *S. neglecta* × *O. papilionacea* in the Zurich University, found on May 5th, 1903, by Karl Knetsch on Monte San Giuliano, which is part of Monte Pisano. The late Mr. Bicknell (Flowering Plants of the Riviera, pl. 59, fig. C) describes and figures the same hybrid, which he found on the hills above Pegli, near Genoa, March 18th, 1884, where both the parent plants grew, but *O. laxiflora* was absent,

The Name *Serapias triloba* (Ann. bot. 1. 2. p. 186; 1804, and Floræ

Italicae Fragmentæ, March, 1808, p. 11 and tab. xii., fig. 1) was given by Viviani to a plant found "In collibus siccis, apricis, subtus Granarola prope Genuam," and the following year "in collibus maritimis a Quinto," also near Genoa.

Max Schulze (Orch. Deutschl. 5.4.) and E. G. Camus (Mon. Orch. Eur. p. 64; 1908) regard *S. triloba* Viv. as being *S. neglecta* × *O. laxiflora*, the latter going so far as to say that Richter and other authors were wrong in giving *O. papilionacea* × *S. neglecta* as synonymous with *S. triloba* Viv., adding that he had studied the latter in a fresh state together with both parents. The context shows that the plant studied was *O. laxiflora* × *S. neglecta*.

I suggested to Dr. Keller that it was fairly certain that *O. laxiflora*, a marsh-loving plant of the plains, does not and could not exist on the dry sun-baked hills ("collibus siccis apricis") above Genoa, and further that the hybrids found by me on Monte Pisano were identical with Viviani's plant. He went to Geneva, and consulted Viviani's original descriptions at the Herbier Boissier, and wrote as follows:—"Vous avez raison; Viviani dénomme triloba *Serapias neglecta* × *O. papilionacea*. C'est absolument clair, et je vous prie de publier une note . . . Dans la tavola XII (optima!) je crois reconnaître votre hybride." He added that in any case the latter was not *O. laxiflora* × *S. neglecta*.

Parlatore (Flora Ital. III. 433; 1858) correctly ascribes to *S. triloba*, Viv., a plant found by Bicchi near the cross on the top of Monte Pisano, directly above the place where the present hybrids were found, which Bicchi himself identified as *O. papilionacea* × *S. neglecta*.

Richter (Pl. Eur. I. 275; 1890) gives *S. triloba* Viv. as *O. papilionacea* × *S. neglecta*, citing *Isias triloba* De Notaris, by whom Viviani's plant was made the type of a new genus, Isias, which, however fell to the ground, the plant proving to be of hybrid origin.

Bicknell found *S. triloba* Viv. above Pegli, a little to the west of Genoa, and noted the absence of *O. laxiflora*. I have personally botanised below Granarolo and at Quinto from the railway to the summit of Monte Fasce, where O. papilionacea is the dominant Orchid, but I saw no *O. laxiflora*, and no ground suitable for its habitat.

The evidence appears to be conclusive that *S. triloba* Viv. was *Orchis papilionacea* × *Serapias neglecta*, the conjecture that it was *O. laxiflora* × *S. neglecta* resting solely on the external general resemblance of the two hybrids.

I was in some doubt as to whether the name *Orchiserapias triloba* could now be applied to Viviani's plant, as Camus had already published *Orchiserapias triloba* as being *O. laxiflora* × *S. neglecta*. On reflection, however, it appeared clear that Camus did not give this name to that hybrid as such, but solely to Viviani's plant, under the impression that it was *laxiflora* × *neglecta*. We cannot regard him as having had any intention of transferring the name from Viviani's plant to a hybrid of different parentage. Its application to *O. laxiflora* × *S. neglecta* was simply an error of identification, and automatically ceases when the error is recognised.

Owing to the obvious general resemblance between *Orchis-Serapias* hybrids of various parentage, much confusion has arisen in the use of the name *triloba*. Max Schulze and Camus, as we have seen, applied it to *O. laxiflora* × *S. neglecta*. The original drawing of Barla's *O. papilionacea* × *S. lingua* in the Nice museum is labelled *S. triloba* Viv. Ardoini spoke of *O. laxiflora* × *S. longipetala*, which he found near Oneglia, Italy, in 1843, as another *S. triloba*, and sent it to Barla as such. Lloyd (Flore Loire-Inf.) applied the same name to *O. laxiflora* × *S. cordigera*. About 1834 Bentham, Boissier and Koch all identified as *S. triloba* Viv., a single specimen from Trieste now recognised as *O. coriophora* (*fragrans*) × *S. longipetala*.

An excellent figure of this latter hybrid is given by Schulze (Orch. Deutschl. pl. 5b.), comparison of which with Bot. Mag., 6255, will show to what widely different plants the name *Serapias triloba* Viv., was applied. It should be remembered that at that time *S. triloba* Viv., was considered to be a good species, so that anything with a general resemblance to it was thought to be identical with it, there being much scepticism as to the existence of natural hybrids.

Bot. Mag. 6255 is headed *Serapias papilionaceo-lingua*. The original drawing from which it was taken is at Kew, and is labelled "*O. laxiflora* × *S. neglecta*," and (in pencil) "*Orchiserapias triloba* G. Camus." It appears to be true *S. triloba* Viv., but the colour, blue-purple, is wrong. The description, however, gives it as bright *red*-purple. Its habitat in grass, 500ft. above the sea near Portofino Kulm is similar to those of Viviani's original plants, of Bicknell's specimens, and of the 1924 examples from Monte Pisano, agreeing well with the parentage of *O. papilionacea* × *S. neglecta*, but excluding that of *O. laxiflora*. The description in Bot. Mag. as to the base of the lip having two tubercles (calli) on the very short claw, is against the parentage of *S. lingua*, which has a large single blackish callus, reproduced, according to Camus, in *O. papilionacea* × *S. lingua*, "muni à la base d'une callosité noirâtre peu marquée." It might, however, have been *Orchis papilionacea* × *Serapias longipetala*, the latter being recorded as being present.

To sum up, the dry sun-baked habitat of Viviani's plant excludes the possibility of the parentage of *O. laxiflora*, the Orchis-parent being, as stated by Viviani himself, *O. papilionacea*.

The following description of these recently found specimens may be of interest :—

ORCHISERAPIAS TRILOBA (Viv.) Godf. Comb. nov. (*Orchis papilionacea* × *Serapias neglecta*). *Tubers* small. *Stem* ± 20 cm. *Leaves* narrow and curly as in *Serapias*, or broader, shorter, and flatter as in *Orchis*. *Bracts* lanceolate acuminate. *Sepals* free lanceolate green. *Petals* lanceolate acuminate rose-red. *Lip* spurless trilobed, with 2 calli on the short claw, cordate-triangular, side lobes broad, spread out, mid-lobe short broad undulate; colour dark rose-red with darker nerves ending in a minute tooth, making all edges denticulate.

SERAPIAS TRILOBA Viv. *Isias triloba* De Notaris. Western slopes of Monte Pisano, near Pisa. May 1st, 1924.

The restriction of *Orchiserapias triloba* to Viviani's plant, leaving *O. laxiflora* × *S. neglecta* without a name, I adopt, at Dr. Keller's suggestion, the following :—

ORCHISERAPIAS PISANENSIS, Godf. Comb. nov. (*O. laxiflora* × *S. neglecta*. *Tubers* ovate. *Stem* usually under 20 cm. *Leaves* as a rule resembling *S. neglecta*. *Bracts* lanceolate acute, longer than ovary, often reddish. *Sepals* and *petals* free lanceolate acute, connivent or spreading, tinged with red-violet, rarely whitish-green. *Lip* without spur, with two calli at base, cordate 3-lobed, red-violet, side lobes broad, spreading, mid-lobe rather long, pointed, edges more or less wavy or frilled.

Ancient damp pastures, very local, usually in scattered specimens, but a colony of seven has been seen. Fairly uniform in type. A form nearer *O. laxiflora*, of which it had the tall stem (37 cm.), and long narrow erect leaves, has occurred. *Orchiserapias triloba* Camus.

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SIGMATOSTALIX ELLIÆ.—This interesting little plant was introduced by Mr. J. Birchenall, Alderley Edge, Cheshire, with whom it flowered in January, 1908. It was found growing in the Velez district, at a lower altitude than Odontoglossum crispum, in intermediate temperature. The flowers are yellow, spotted with reddish-brown on all the parts.

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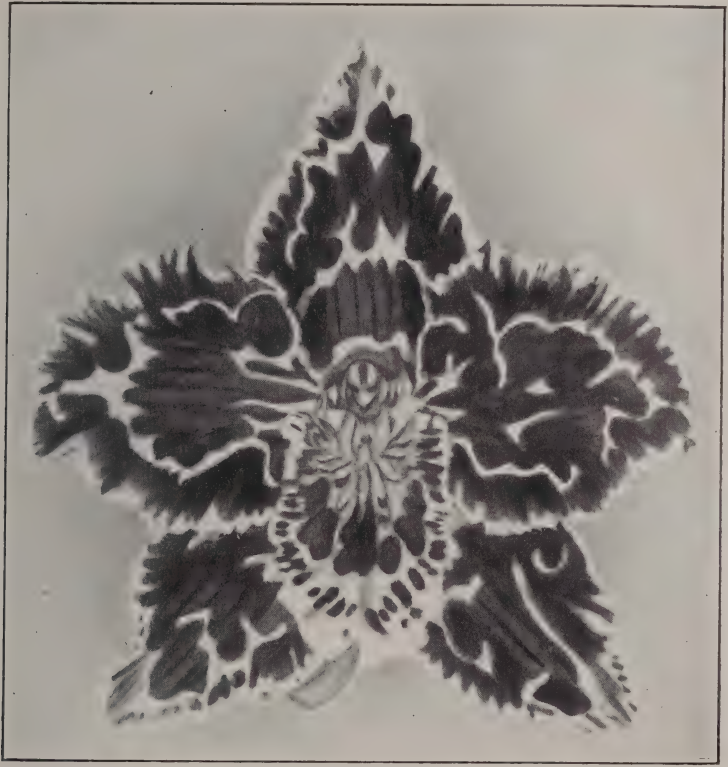
SOPHRONITIS GRANDIFLORA.—This is by far the most popular species of the genus. It was introduced to British gardens by Gardner, who sent plants to Messrs. Loddiges' nursery, at Hackney, where they flowered for the first time in October, 1841. It grows best in the cool house in shallow pans suspended from the roof, or placed in other positions where the light is not too strong. The compost should consist of soft fibre with sphagnum moss intermixed. Some cultivators recommend the inclusion of a few chopped up oak-leaves, but the proportion of leaf-soil must not be carried to excess.

THE MILFORD MANOR COLLECTION, SALISBURY.

OF the many superb Orchids that have been exhibited during recent years at the meetings of the Royal Horticultural Society, several have come from the collection of Richard Gerrish, Esq., Milford Manor, Salisbury. In fact, two First-class Certificates and thirteen Awards of Merit have been granted to plants shown by this amateur. Although Mr. Gerrish became interested in Orchids twenty years ago, his first plants failed to succeed as well as they might have done, owing to insufficient care, so they were transferred to another garden. But the commencement of the present collection in 1912 was associated with conspicuous success, and from that date onwards many noteworthy Orchids have been seen in the Milford Manor garden.



ODONTOGLOSSUM CLODAGH.

Odontoglossums and Odontiodas have given such excellent results that the construction of the cool-house may be described in detail. It measures about 40 feet in length and 16 feet in width. On each side are four rows of 4-inch hot-water pipes, which are more than sufficient to maintain a suitable atmosphere without being made unreasonably hot. A few inches above the pipes, wire netting is arranged and covered with sphagnum moss, the latter being renewed annually. About eighteen inches above this is a staging covered with granite chippings, and kept moist by frequent syringing. A few inches higher up is the actual staging on which the plants are arranged; it is composed of teak laths three inches wide and one inch thick, while the pillars supporting it are surrounded by shallow trays of water in order to prevent slugs from crawling up to the plants. The sash-bars of the roof are of the anti-drip pattern, and the house is shaded when necessary by means of lath-roller blinds.

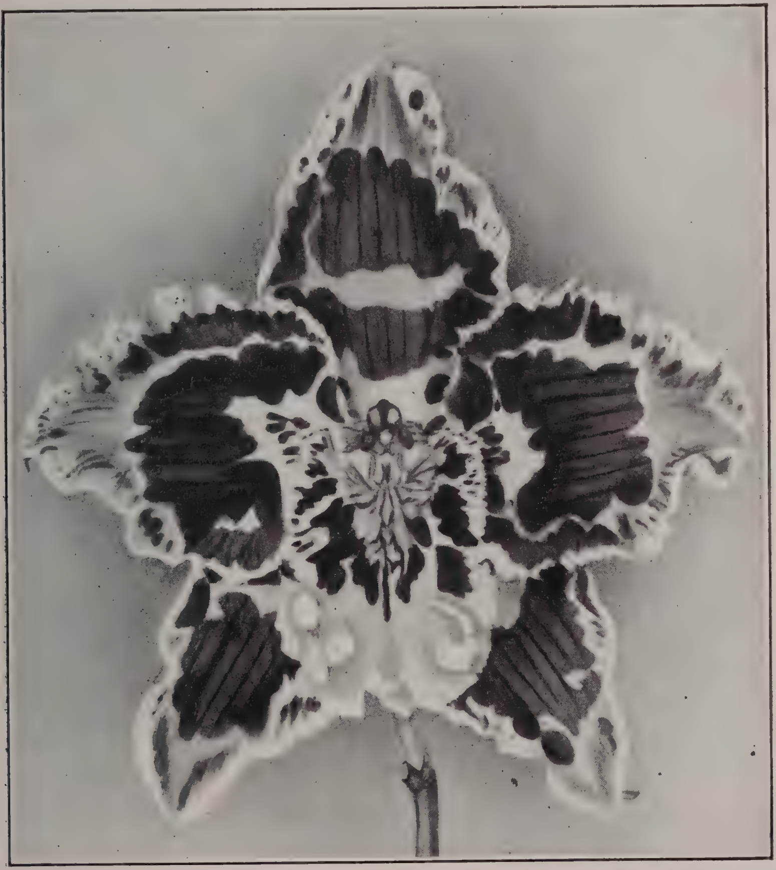
This house contains about 300 plants, and some idea of the successful results achieved may be gained from the fact that last spring there were no less than 200 plants in flower simultaneously. On April 7th of the present year, Mr. Gerrish exhibited a group at the meeting of the Royal Horticultural Society and gained the high award of a Gold Medal, while a Silver Lindley Medal was given to his gardener, Mr. W. Sorrell, in recognition of his skilful cultivation. Two of the plants obtained Awards of Merit, these being Odontoglossum Clodagh, of which an illustration is here included, and Odm. Cordoba (eximium × Doris), bearing a spike of eleven flowers, the segments of almost solid reddish blotching.

In detailing the various plants in this collection, one cannot help giving first place to the species. Odontoglossum crispum is represented by several of the best home-raised forms, named, respectively—Dawn, which has not yet been exhibited; Repulse, of fine form and thick texture; Avon, of light rose tint; Sir Bedivere, with a single blotch on each segment; Sir Percival, effectively spotted; and Sarum, a grand variety which bears the name of the place where stood the Norman cathedral which was taken down in 1331, and its stone used for building purposes in Salisbury. A few Oncidiums are grown at the end of this house, among them being a couple of O. macranthum. There are also about half-a-dozen plants of Odontoglossum Pescatorei, whose branching flower spikes are very decorative, and a dozen, or more, examples of O. crispum xanthotes, the delicate white and light yellow spotted flowers of which are always appreciated. A few natural hybrids are cultivated, the rest being Odontoglossum excellens, with golden-yellow flowers, spotted with brown, and O. harvengtense var. Crawshayanum, A.M., R.H.S., May 9th, 1911.

The artificially produced hybrids are of course much more numerous. They include such fine things as Odontoglossum plumptonense, which recently produced a spike of 14 rose-violet flowers; O. Creon, with a dozen flowers; O. Thetis, of claret-purple colour; and O. Lilian, the latter being a robust plant which was in the Gold Medal group of April last, when it had a spike of 18 flowers, and later on produced from the same bulb a spike of 15 flowers. Of the several other Odontoglossums which have gained

Awards of Merit, mention may be made of Topaz, Princess Yolande, and a finely blotched one, called Tagus, Gerrish's var.

The illustration of Odontoglossum Fabia var. The King, shows one of the finest results obtained by crossing Aglaon with eximium, the brownish blotching and the rose-tinted ground making a pleasing combination. Although an Odontoglossum of true blue colour has not yet appeared, there are a few which have a decided bluish tint. In Odontoglossum Duke of York the roundly-formed segments are mainly covered with bluish-purple colour, thus giving the flowers a very distinct appearance. The accompanying illustration of this valuable hybrid shows the formation of the flower and the design of the blotching. The crest on the labellum is bright yellow. O. Portia has unusually large petals of round formation, and of quite a distinct bluish-purple tint. O. Leander obtained an Award of Merit, February 26th, 1924, and is noteworthy on account of its large



ODONTOGLOSSUM FABIA VAR. THE KING.

flowers of purplish colour. One of the gems of this collection exists in Odontoglossum Rubens, for its large and roundly formed flowers have the segments of solid cherry-red colour, except for a narrow white margin on the sepals and petals and apex of the lip. Although no seed-raising is carried on in this collection, there are a number of unflowered seedlings which have been purchased from the various trade growers and at sales of amateur's collections.

An almost equally important feature of the cool-house is the fine collection of Odontiodas, which now almost come up to the Odontoglossums in size and formation of the flowers. Of outstanding merit are Odontioda Pacavia, which may be described as entirely scarlet, the labellum having some cream-coloured mottling; Oda. Iduna, A.M., Chelsea Show, 1924, a large round flower of bright scarlet colour, the labellum orange-yellow marked with scarlet; Oda. Marietta, first recorded by Mr. Gerrish, in 1923; Oda. Laura, to which an Award of Merit was given on June 11th, 1924; and Oda. Cora, noteworthy on account of its roundly formed petals with a deep scarlet zone on the outer area, the inner part prettily blotched. Two of the finest Odontiodas yet seen are here cultivated in one called Naomi, F.C.C., R.H.S., May 8th, 1923, and in another known as Ganesa, F.C.C., R.H.S., April 29th, 1924; the former was certificated when bearing a spike of 14 flowers of excellent formation and of a peculiar bronze tint of terra-cotta, while the latter bore flowers of dark crimson colour, the crest on the labellum standing out conspicuously on account of its yellow colour. Another beautiful Odontioda may be mentioned in one bearing the name Viscountess Folkestone, and to which a Preliminary Commendation card was presented when shown before the Royal Horticultural Society. Many of the Odontoglossums and Odontiodas have been considerably increased by propagation, and as an example of what can be accomplished in this way it may be stated that Odontioda Queen Mary is now represented in this collection by five vigorous plants. It was awarded a First-class Certificate when shown at the Royal International Exhibition of 1912. The flowers are of brilliant scarlet-red margined with rose.

As in the case of the Odontoglossums, no Odontiodas are here being raised from seed, but young seedlings in the unflowered state are purchased, and it is from them that several elegant varieties have been secured. Noteworthy instances are Odontioda Opal, Gerrish's variety, Oda. Lady Patricia Ramsay, Oda. Tacita, and Oda. Juanita, A.M., Sept. 9th, 1924. In the cultivation of the cool-house section of plants, Mr. Sorrell uses equal parts of Osmunda fibre and Sphagnum moss, and it must be said that no better results could be wished for.

The Cattleya house has been newly erected this year, and now measures about 45 feet in length by 15 feet in width. The autumn is certainly the best period for seeing the plants in flower, although many come into bloom in the spring, while there is never a week without some plants showing their flowers to advantage. At the time of making these notes there were in flower some strong plants of Cattleya Dowiana aurea, several of the typical form of C. Hardyana, five flowers on a spike being common, as well as an equal number of C. Hardyana alba. Cattleya Joyce Hanmer bore two flowers of bright golden-yellow colour, the front lobe of the labellum stained with soft crimson, while C. Sunstar carried flowers of yellow colour in the sepals and petals, the labellum being of a most pleasing sunset-glow tinge. Other hybrids in the yellow section include C. Venus, always attractive, but not one of the easiest of plants to cultivate, and C. Drapsiana, in which the sepals and petals are light buff-yellow and the lip ruby-purple. A charming hybrid in the long-bulbed section exists in C. Orient (Adula × Venus), and one of the best varieties of it is in this collection. C. Cantauriæ produces flowers with white sepals and petals and a labellum of purple and white areas. One of the most popular of present-day Cattleya hybrids is grown in C. Tityus, and it is pleasing to

ODONTOGLOSSUM DUKE OF YORK.

note that the special variety of it here cultivated has been increased by propagation to six strong plants.

A few remarks may now be made concerning the Cattleya species. The first to flower in each year are the varieties of C. Trianæ, followed by C. Mendelii, of which there are numerous plants, C. Mossiæ, both coloured and pure-white forms, C. Gaskelliana alba, represented by Low's variety, and C. Warscewiczii, a fine type, of which the best is distinguished by the varietal name " Sir Douglas Haig." Among albino flowers, there are C. chocoensis alba, and four vigorous plants of C. Cowaniæ alba.

Læliocattleyas are always popular subjects, and it is therefore not surprising to find a varied selection in the Milford Manor collection. They include Lc. Dominiana, still worthy of cultivation, although first raised twenty-five years ago, Lc. Soulange, of which there are a couple of dozen examples, Lc. J. J. Ansaldo, a fine plant and variety, Lc. Maqueda, noteworthy on account of the rich purple colour of its flowers, and Lc. Profusion, a hybrid of recent origin, and one that promises to remain popular for some time to come. One of the prettiest of the autumn-flowering Læliocattleyas has been recently seen in Linda, with a spike of four bronze-coloured flowers, the mid-rib and margin of the petals tinged with rose. In Lc. Momus one can witness the power of Lælia pumila in the broad and flatly displayed petals, the variety here cultivated is one of the finest of its kind. Of the several hybrids with white sepals and petals, an elegant form exists in Lc. Hassallii alba, and the six plants in this house make a fine show. Lc. Schrœderæ, of which there are also half-a-dozen examples, were all selected in flower, and are in consequence much above the average type. Lc. Queen Mary may also be classed among the best of its kind, the specimen plant has now three leading bulbs, and promises well for the next flowering.

Sophronitis hybrids generally require more care and attention, although they well repay the cultivator when producing their highly-coloured flowers. This collection includes a plant of Sophrocattleya Thwaitesii (C. Mendelii × S. grandiflora), which is part of the F.C.C. variety, and now has five leading growths. Other interesting plants in this section are Sophrolæliocattleya Marathon with flowers of salmon colour, and Slc. Isabella, of unusually large size and colour with respect to the flowers.

Hybrids of Brassavola Digbyana always attract attention by reason of the large size of their flowers and the prettily fringed labellum. Bc. Cliftonii magnifica is perhaps too well known for description; it is here represented by three vigorous plants, and there are four plants of another variety which has not been certificated. Bc. Peace and Bc. Enchantress both produce white flowers. Bc. Penelope here exists in about ten plants, nearly all of which have three leading bulbs. There are also several plants of Bc. British

Queen. While detailing this section, two other elegant hybrids may be recorded in Brassolæliocattleya Jupiter and Blc. Muriel, the former bears flowers which in size are about equalled by the length of the name, while the latter are quite as large, and of a pretty rose-pink colour.

Suspended from the roof are some sixty pans containing as many fine plants of the various varieties of Lælia anceps, also a couple of plants of Vanda cœrulea. It is of interest to mention that the six plants of Epidendrum Endresio-Wallisi in the same house were recently presented to this collection by Mr. H. T. Pitt, of Stamford Hill. Before concluding the remarks on this fine collection, which, generally speaking, is represented by quality instead of quantity, a note should made of the fifty Dendrobiums, mostly of the nobile type, but including a large plant of thyrsiflorum, and other Burmese kinds.

ODONTIODA QUEEN MARY.

There is also a large span-roof house, having the centre staging filled with Cymbidiums. These have nearly all been derived from C. insigne, and in their proper season yield a grand display of long-lasting flowers. Two species of interest are grown in Cymbidium Lowianum concolor, in which the crimson V-shaped blotch on the front lobe of the labellum is almost suppressed, and in C. insigne var. Enchantress, of beautiful coloration. On each of the side stages there are about a hundred propagated Odontoglossums, and various other Orchids, such as Lycaste Skinneri, Epidendrum prismatocarpum, and Odontoglossum grande.

The successful management of this collection is no light task, and if Orchids are to be seen at their best, they must be cultivated by someone who thoroughly understands their varied needs. Mr. W. Sorrell has achieved considerable success during the six years he has been in charge, and doubtless the near future will allow him to obtain further honours when exhibiting at the meetings of the Royal Horticultural Society. He has been associated with Orchids for about thirty years, having previously been with Mr. Theodore Cookson at Warminster, and in the celebrated Gatton Park gardens.

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CYPRIPEDIUM FREDERICK STANDEN.—A new hybrid worthy of individual description has recently flowered in the collection of the Hon. Henry D. McLaren, Bodnant, Tal-Y-Cafn, North Wales (gr. Mr. F. C. Puddle). It is Cypripedium Frederick Standen, and has been produced by crossing Cyp. Lord Wolmer with Cyp. Charlesworthii. The former parent is mainly composed of the two species insigne and Spicerianum, and on that account is almost a form of C. Leeanum. The latter parent is a well-known species, and of which an illustration and description appeared in our last issue (p. 311). Most lovers of Cypripediums are well acquainted with the large flower of C. Leeanum giganteum, for it forms a good example of the increase in size oftentimes obtained by hybridisation. Cypripedium Frederick Standen affords a further example of the fine results obtained through the judicious blending of the characters of C. insigne, Spicerianum and Charlesworthii. In a general way it is a glorified form of C. Leeanum, and like the majority of Cypripediums has its chief attractive qualities in the dorsal sepal. In this flower it is of porcelain-white nature, measures 3¼ inches in width, and has the apical margin slightly bent forward and folded, as in Spicerianum; there is a small greenish area at the base, while the central area bears some light rose markings. The petals are yellowish, but almost covered with a brownish venation, the exception being a bright rose coloured area on the upper part of the apical region, thus imparting a pleasing feature. The labellum is well proportioned, of yellowish colour, stained with brown.

AMERICAN ORCHID SOCIETY.

THE Schedule for the American Orchid Society's forthcoming Exhibition at Philadelphia in May next has been very carefully prepared, and should be the means of inducing a large number of amateur and commercial growers to enter for competition in the various classes, of which there are no less than 93. Class 32 is for the best collection, regardless of size, of flowering, propagated Orchid plants, consisting wholly of one variety of one species, due consideration being given to the size, form and colour of the flowers and the condition, strength and culture of the plants. In the *Orchid Review* for August, 1924, p. 230, a description is given of Cattleya Mossiæ var. Mrs. J. T. Butterworth, exhibited at Boston on June 7th, 1924. The stock of this plant then consisted of forty plants, all obtained by propagation from the original small piece. One can well imagine the impressive sight that would be produced by these plants flowering simultaneously and arranged in a group. Certain varieties of Cattleya Mendelii could be similarly treated, and if masses of Masdevallia coccinea, and others of the Harryana section, could be staged, the effect would be entrancing in the extreme and worthy of all the preliminary work.

Class 33 may reasonably be expected to prove of greater attraction than the preceding one, for it is for the best collection, regardless of size, of flowering, seedling Orchid plants, consisting wholly of plants from one seed-pod, due consideration being given to the size, form and colour of the flowers and the condition, strength and culture of the plants. In these days of complex parentages and multi-generic hybrids the seedlings from any one seed-pod show such a diversity of coloration in their flowers that it is frequently a matter of difficulty to believe that they have originated from the stated parents. The principal means of ascertaining the wide variation produced in most of the present-day hybrids is to pay constant visits to the houses of the commercial growers, although this is only possible in the case of those who reside in the immediate locality. It is the practice of the commercial growers to distribute the seedlings to their various customers, so that in a short period they become too scattered for comparisons to be made, or at least with any degree of accuracy. This particular class in the schedule of the American Orchid Society's forthcoming Exhibition should do much to encourage the staging in one group of as many flowering seedlings as it is possible to procure from the same seed-pod. It is always an instructive lesson to observe the range of variation among the seedlings of any particular cross. It frequently happens that only those possessing exhibition qualities are staged, while in not a few cases the whole batch of seedlings is unworthy of being shown. While no one desires to see the exhibition stages filled with seedlings of poor quality, there are often some varieties in a batch which, although not possessing sufficiently good characters to be themselves prize-winners, may prove of immense value in the production of subsequent generations on account of one particularly fine quality, such, for instance, as brilliancy of yellow colour, but not at present associated with full development of the segments.

NEW HYBRIDS.

Name.	Parentage.	Exhibitor.
Cattleya Crœsus	Cooksonii × Dowiana	Sanders
Cattleya Eleanor Gray	Marriottiana × Dowiana aurea	G. E. Baldwin & Co.
Cattleya Gilvus	Heliodor × Hardyana	Baron Schröder.
Cattleya Lavinia	Alcimeda × Warscewiczii	Stuart Low.
Cattleya Monica	Princess × Carmen	Cowan & Co.
Cattleya Paraiso	Dowiana aurea × Heliodor	Baron Schröder.
Cypripedium Starlight	niveum × Helice	C. Cookson, Esq.
Læliocattleya Ashdown	Lc Tunis × Lc Mrs. Evelyn Norrie	Stuart Low.
Læliocattleya Aulange	C. Aumania × Lc. Soulange	Sanders.
Læliocattleya Empire	C. Fabia × Lc. Britannia	Sander et Fils.
Læliocattleya Favourite	C. Fabia × Lc Hon. Mrs Astor	Sanders.
Læliocattleya Junia	C. Prince John × Lc. Myrrha	Stuart Low.
Læliocattleya Luminant	Lc. Lucille × Lc luminosa	Sanders
Læliocattleya mamaroneckensis	C. Warscewiczii × Lc. C. G. Rœbling	G. E. Baldwin & Co.
Læliocattleya Memoria Pantia Ralli	C Lord Rothschild × Lc. Britannia	C. J. Lucas, Esq.
Læliocattleya Primera	Lc. Wellsiana × C. Hardyana	Stuart Low.
Læliocattleya Sunshine	Lc Sunshine × Lc. Roumania	Cowan & Co.
Odontoglossum Ardenticity	ardentissimum × Felicity	A. Hanmer, Esq.
Odontoglossum Eclipse	Aglaon × Thais	J. J. Bolton, Esq.
Odontoglossum Joyce II.	President Poincare × Georgius Rex	A. Hanmer, Esq.
Potinara La Paz	Sc. Faboris × Blc. The Baroness	Baron Schröder.
Sophrolæliocattleya Rhoda	S. grandiflora × Lc. Epicasta	Cowan & Co.

CULTURAL NOTES.

CYPRIPEDIUMS.—The warmth-loving Cypripediums, such as C. Stonei, C. philippinense (lævigatum), C. Lowii, C. Parishii, C. Rothschildianum and hybrids, such as C. Morganiæ, C. I'Ansoni, C. Shillianum, and others of this class, are now growing freely, and must have an ample supply of water, both at the roots and in the atmosphere. Syringing and spraying is best left alone during the winter months, as water is apt to settle in the growths and cause decay. Although this class of plant requires plenty of moisture at the roots, whilst in active growth, care must be taken that the plants do not get it in excess, as the loss of roots is the result of a plant becoming saturated and in a water-logged condition.

WINTER-FLOWERING CYPRIPEDIUMS are pushing up their flower spikes, and will make a fine show far into the new year, and where a good collection of them is grown there is much to admire and interest even the most fastidious. I will not pretend to give a selection, as the varieties of this popular family are so numerous, and even if I did attempt it, in many cases they would not be available, but in most cases there are some which are appreciated more than others, and all are beautiful. The plants should be thoroughly cleaned, and the flower spikes neatly staked up, so that every flower receives the maximum amount of light, and everything made spick and span by the time the plants get into flower and are at their best. To my mind there is nothing like clean foliage as a setting to good flowers, and that is why I urge cleanliness on all cultivators.—*J. T. Barker.*

Atmospheric Moisture.—Probably there is no other month throughout the year when less water is required for damping down purposes, as the great majority of plants in the various departments have now completed growth; others are approaching that stage, so that they not only require less water direct, but a much less humid atmosphere; whilst those having no apparent season of rest require also less moisture, so that new growth may become somewhat hardened ere the rigours of winter set in. The desirable conditions of hardening are only secured by admitting a good deal of fresh air, which is at this season heavily charged with moisture, and therefore cannot absorb the same so quickly from the interior of the house, as is the case during the summer months. It will therefore be seen that not nearly so much damping is necessary, and in no case should this be proceeded with until the normal degree of warmth in a house is reached.—*J. Mackay.*

Dendrobiums that have finished growing should be given air on a fine day, and encouraged in every way possible to make hard, plump bulbs. The house should be damped whenever it gets dry, as too dry an atmosphere will dry the pots and cause more watering than when the house is kept moist. Seedling Dendrobes should be grown on without resting until they get to flowering size, or they will take a good many years to flower, and that generally bars one getting anything up-to-date from them. Should any bulbs show flower a little out of season do not put them into a hot temperature, or the buds will not develop; leave them in the ripening house until the buds have formed, then there will be no danger of losing them. With a good collection of these one need not be short of showy flowers during the winter and early spring, and the hybrids are not so difficult to grow as the species are after they have been in cultivation for a few years, and they are not very particular where they are grown so long as they get plenty of light. Cœlogyne cristata can also be ripened with the Dendrobes, as it requires much the same treatment. Oncidiums, such as Forbesii, crispum, varicosum Rogersii, Odontoglossum grande, Lælia anceps, and autumnalis will do well in the same house, if one is short of room for the winter, and the house is not allowed to fall below 55°.—*W. H. Morgan.*

Phalænopses, having now completed their new leaves, should have much less water afforded them. Not that they should be rested, so to speak, like many of the pseudo-bulbous species, because they could not stand it ; they must simply be kept drier, so that the foliage becomes more hardy, and consequently less liable to watery spots, which will appear if immatured and sappy during the winter. They will soon commence to push forth their flower spikes. If one part of the structure is hotter than another, this should always have the preference, but avoid a position where the outside air when admitted comes in direct contact with them. Neither do they derive any benefit from the sunshine striking them full, not even during the winter, and it is best, therefore, to avoid this.—*H. A. Burberry.*

ODONTOGLOSSUM CITROSMUM having completed its season's growth, should be removed to a light position in the Intermediate house, and only sufficient water given to help them to fully make up their bulbs, which ought to be by the middle of the month. Afterwards they will go for long periods without water, in fact, if properly ripened up, they will go right through the winter until the spikes are seen pushing from the centre of the new growth without a drop of water. They must have a very decided rest if they are to be induced to flower. O. bictionense and its variety album are now in flower. They should be grown all the year round with O. Uro-Skinneri at the cool end of the Intermediate house, as the foliage is liable to spot if grown too cool. O. grande, Insleayi and Schlieperianum, now in flower and bud, are also best in the same house.—*W. C. Price.*

PLEIONES.—At this season of the year Pleione maculata, P. lagenaria, and P. Wallichiana, which will soon pass out of flower, may be repotted. The flowers are produced with the new growths. As soon as the flowers are removed a batch of new roots is produced at the base of the growths. Shallow pans are the most useful receptacles, which should be filled one-third of their depth with drainage. The compost should consist of good fibre, the best yellow fibrous loam, and sphagnum moss in equal parts. A sprinkling of sand may be added, and where the plants do not succeed a few partly decayed oak leaves may be incorporated with advantage. Pans of various sizes may be chosen, and the largest bulbs can be planted two nches apart. It is advisable to grade the bulbs, then the largest are arranged together, and the smaller ones, which perhaps will not flower, can be placed in different pans. By adopting some such method examples are secured which will be a mass of flower in due season. At the present time each pan should be suspended or placed on a shelf fairly near the glass, where the average temperature is about 60 degrees, and sufficient water should be given to keep the soil moist. As root action increases, and the leaves begin to expand, water may be afforded more frequently, and the plants kept well supplied until growth is completed. To prevent the appearance of red-spider the foliage ought to be sponged over at intervals with a weak solution of some reliable insecticide.—*T. W. Briscoe.*

ORCHID CULTIVATION.

THE last issue of the Royal Horticultural Society's *Journal* (vol. l., pt. 2), September, 1925, contains an interesting article on "Orchid Cultivation," by Sir Jeremiah Colman, Bart., M.A., V.M.H.

While the author makes no claim to expert knowledge, he has been a looker-on for upwards of thirty-five years, and on that account his observations cannot fail to be of value. Many imported plants have been established in the Gatton Park collection, in addition to which there have been raised, from pollination of the flower to actual flowering, more than one thousand distinct crosses, representing twenty or twenty-five thousand hybrids brought to maturity.

To those amateurs who are about to form a collection, Sir Jeremiah Colman offers valuable advice. He says: "I have heard of purchasers selecting half-a-dozen Orchids from a group, each one of which required placing in a different house—with perhaps two greenhouses at the most for their unfortunate gardener to attempt to grow them in; nothing but disaster and disappointment can follow. Whereas, if they start by satisfying themselves as to what conditions prevail in their greenhouses, the attendant in charge of the group could at once tell them what they might reasonably attempt to grow. There is not the least difficulty in making a selection from some of the most beautiful Orchids in cultivation of plants which can be quite easily grown, and which are quite reasonable in price."

Amateurs who make purchases from the various trade growers do so with the understanding that the plants are in perfect health, and the price is fixed accordingly. There are, however, occasions, such as the disposal by auction of private collections, when plants in indifferent health may be procured, and with respect to these Sir Jeremiah Colman makes the following appropriate remarks:—"If a specimen plant is purchased in perfect health no improvement can be looked for. It is almost inevitable that it will go back rather than forward. Beginners should on no account purchase plants out of health. But, on the other hand, if the plant is in a condition which gives room for improvement, the owner is much more likely to find satisfaction in the results than if he buys a plant in perfect health, heavily flowered, which in all probability, even if it remained in its old surroundings, would in twelve months' time have deteriorated."

This brings us to the question that has on more than one occasion been considered—what is perfect health? The valued opinion of the Chairman of the R.H.S. Orchid Committee is worthy of being here repeated, for he says, "I suggest we have something to learn in respect to the standard of good health which we have set up. The members of the Orchid Committee rarely give a Cultural Commendation except where the plant is in apparently super-robust health; making vigorous, possibly forced rank growth, and probably bearing a large number of flowers. In my experience it does not follow that such a condition indicates health, and I feel that the coveted Cultural Commendation would often be better bestowed upon growers of plants of less vigorous constitution. In my early days of Orchid-growing it used to be a common saying in my garden that whenever we received a Cultural Commendation for a plant it was doomed to die within twelve months!—the fact being doubtless that it was too freely grown."

This interesting article is accompanied by illustrations of the following Orchids: Dendrobium Lady Colman, D. taurinum, D. Brymerianum var. Gatton Park, D. Gatton Sunray, Cœlogyne Colmanii, Phaio-Calanthe Colmanii, Odontioda Gatton Glory, Brassocattleya Lady Colman, Catasetum Bungerothii var. Mrs. Tom Fielden, Bulbophyllum Fascinator, Brassocattleya Mary, and Brassolæliocattleya Antoinette var. Gatton Park.

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Fertilisation of Ophrys speculum, O. lutea, and O. fusca.—From the correspondence included in our issues for April and July, pp. 99 and 195, some of our readers may have inferred that the interesting article by Colonel M. J. Godfery, entitled "The Fertilisation of Ophrys speculum, O. lutea, and O. fusca," was published in the *Orchid Review*. Reference, however, to our issue for March, p. 67, will show that it originally appeared in the *Journal of Botany*, February, 1925.

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Obituary.—We much regret to have to record the death of Phillip Smith, Esq., of Haddon House, Ashton-on-Mersey, one of the founders of the Manchester Orchid Society and a continual supporter of its periodical exhibitions. We are pleased to learn that his collection of Orchids, so rich in choice varieties, will be maintained by his widow.

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Dendrobium Findlayanum.—This species was discovered by Mr. James Finlay, a merchant trading in Burmah, while on a journey to Zimmè, in 1867-68, and who brought a single plant to the Rev. C. Parish, at Moulmein, by whom it was sent to Kew as a dried specimen. Its habitat is on the rocks on the higher parts of the mountain range separating Burmah from Siam, whence it has more than once been imported. It flowered for the first time in England in the collection of Sir Trevor Lawrence, Bart., in the spring of 1877. It has been much used in the production of Dendrobium hybrids, one of the earliest instances being D. Cybele (Findlayanum × nobile), which flowered in 1887.

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Royal Horticultural Society.—Meetings will be held on November 3rd and 17th, and December 1st and 15th.

ORCHIDS AT LA FERTE-SOUS-JOUARRE, FRANCE.

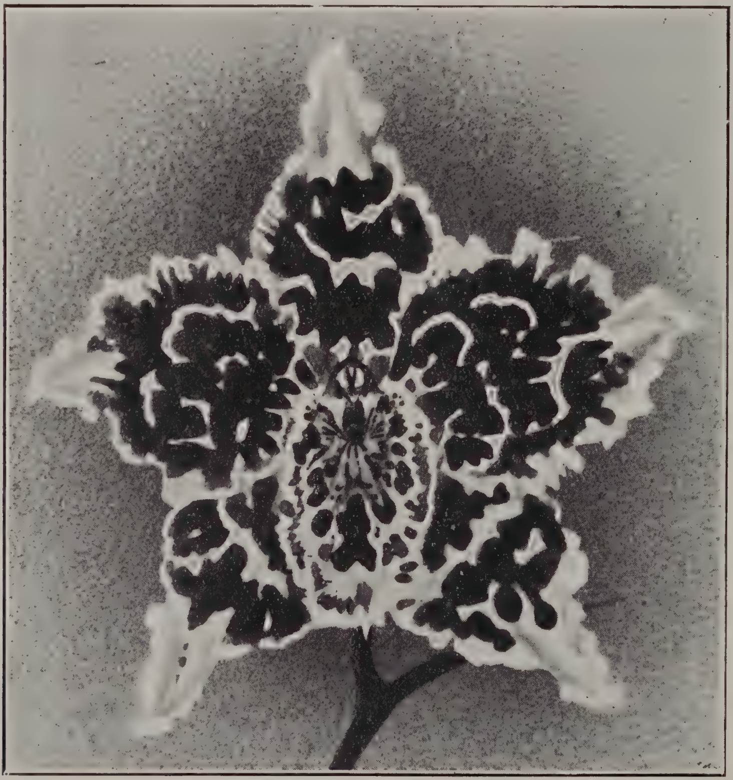
AMONG the experimental workers in the art of raising Orchids from seed a foremost position must be given to Dr. Jean Gratiot, of La Ferté-sous-Jouarre (S. & M.) France. For more than 17 years he has been studying the various problems connected with this interesting subject, and the results achieved are well worthy of being placed on record. Dr. Gratiot adopts the symbiotic method, the necessary fungi being obtained from sections of the roots. With the same kind of fungus he is able to raise Odontoglossums, Oncidiums and Miltonias; with another kind he obtains success with Vandas and Phalænopses; and with a third kind he raises Angræcums, Cymbidiums, and Cypripediums, and with a fourth kind he obtains seedlings of Lycastes and Anguloas.

One of the most interesting results of his early experiments exists in a single plant of a hybrid between Angræcum sesquipedale and Vanda cœrulea; although it is 14 years old, no flowers have as yet been produced. Another noteworthy hybrid is Vanda Gilbert Triboulet, obtained by crossing V. tricolor with V. cœrulea, and recorded in 1919. The seedlings which have already reached the flowering stage prove that this hybrid is of a free-flowering nature, for one plant has produced eleven spikes in five years. The inflorescence is intermediate in character, the individual flowers being larger than those of V. suavis, while still retaining much of the characteristic bluish mottling of V. cœrulea. Pleasing as this hybrid is, Dr. Gratiot has gone a step further by crossing it with V. cœrulea, thus greatly increasing the proportion of this species in the parentage. By so doing he hopes to produce a race of plants with flowers much like those of V. cœrulea, but having a strong constitution. This batch of seedlings looks very healthy, and as they are already about six to nine inches high it is expected that some will flower during the year 1926.

The Phalænopses are in a remarkable condition of vigour, perhaps mainly due to the fact that they were raised from seed in France. The parents were P. amabilis and P. Rimestadiana, but as the latter is generally considered as a variety of the former, or even identical, it seems hardly correct to refer to the seedlings as hybrids. However, a second generation has been produced by crossing one of the seedlings with P. amabilis, and this will doubtless lead to a race of plants fully accustomed to the European climate.

There are also some interesting hybrids between Vanda suavis and V. Sanderiana, but not yet flowered, and some flasks containing a multitude of Angræcum sesquipedale seedlings. Mention may also be made of a rare plant in Vanda Denisoniana alba, and of a robust example of Stenorhynchus speciosus.

Dr. Gratiot has a fully equipped laboratory in his house, while one of the glass-houses is almost filled with flasks and tubes containing the seedlings in various stages of growth. One other interesting feature is worthy of description, and somewhat resembles the bell-glasses illustrated in the *Orchid Review* for August 1924, p. 240. But each bell-glass has a small bottle-neck-like opening near the top which is plugged with cotton-wool, and it is through this opening that, by means of a platinum needle, the fungus and seed are inserted. Each bell-glass rests on a circular stand and contains one seed pan, so that it is possible to place the whole lot in the steam steriliser, and to maintain the same in a sterile condition until required for the insertion of the fungus and the seed through the small opening. By this means almost all risk of injurious infection is avoided, such as would probably occur through removing the bell-glass.



ODONTOGLOSSUM ATHELTUM.—The above illustration represents a handsome hybrid, of unrecorded parentage, which was originally in the Walton Grange collection, Stone, Staffs. Odontoglossum hybrids are particularly suited to the requirements of amateurs, being of easy cultivation, and of a free-flowering nature. Generally speaking, they are more vigorous than the species.

ROYAL HORTICULTURAL SOCIETY.

October 6th, 1925.

Members of the Orchid Committee present:—Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), H. T. Pitt, Fredk. K. Sander, H. G. Alexander, C. H. Curtis, J. E. Shill, A. McBean, John Cowan, H. H. Smith, E. R. Ashton, J. Wilson Potter, T. Armstrong, S. W. Flory, and A. Dye.

First-class Certificate.

Læliocattleya Queen Mary var. fulgens. One of the finest forms of this beautiful hybrid between Lc. Lustre and C. Peetersii. The spike bore three large flowers of clear rosy-mauve colour, the petals broadly developed, while the labellum, with its prettily frilled margin, is almost entirely ruby-crimson, the exception being a small yellowish area on each of the lateral lobes. Exhibited by Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury, Glos.

Awards of Merit.

Cattleya Bellona var. St. Albans (Dowiana × Maggie Raphael); from Messrs. Sanders. A charming hybrid, in which the spike carried four flowers of cream-yellow colour in the sepals and petals, the well-developed labellum being entirely dark crimson, with some golden venation.

Læliocattleya Pandora (C. Fabia × Lc. Marmion); from Messrs. Cowan & Co. This hybrid had a single flower of large size, and of an unusual salmon-pink coloration in the sepals and broad petals, the labellum ruby coloured, the side lobes each having a central area of gold and a narrow rose-coloured margin.

Groups and Other Exhibits.

Messrs. Sanders were awarded a Silver Banksian Medal for an attractive exhibit, containing selected Cattleya hybrids, of which C. Sylvia, C. Lady Veitch, and C. Princess Royal stood out prominently. Læliocattleyas were best represented by Favourite, with apricot-yellow flowers, and by Princess Mary, in which the sepals and petals were of golden-orange colour. The central area was occupied by numerous plants of Vanda cœrulea, while in front were the pretty Cirrhopetalum refractum, generally known as the "Windmill Orchid," Cymbidium sinensis, and a well-flowered plant of Dendrobium Victoriæ Reginæ.

Messrs. Cowan & Co. obtained a Silver Banksian Medal for an exhibit comprising many excellent Cattleya hybrids, among them being Heliodor, of bronze-yellow colour, Sibyl, bright yellow with a ruby-coloured lip, and several varieties of Vesta, of fine form and pure-white. In the centre was a magnificent variety of Brassocattleya British Queen, with an immense flower of rose-pink colour, while on each side were Cypripediums and

Odontoglossum hybrids. Two promising novelties were seen in Cattleya Monica (Princess × Carmen), and Læliocattleya Sunshine (Sunray × Roumania).

Messrs. Black & Flory staged Cattleya Lorna, with four white flowers, the labellum uncommonly marked with purplish suffusion on each side; Cattleya Etta, blush-white, but with a purple coloured lip; Cattleya Lysander var. Bronze Queen, with bronze-red sepals and petals, the expansive lip somewhat darker; and Læliocattleya Rex var. Harlequin, in which the sepals and petals are cherry-red, the labellum golden-yellow, bordered with rich crimson, thus making an unusually distinct flower.

R.H.S. ORCHID EXHIBITION.

THE Annual Autumn Orchid Exhibition, arranged by the Royal Horticultural Society was held at Vincent Square, Westminster, on October 20th and 21st, when the Society's Hall was mainly filled with a multitude of various Orchids. Although there were fewer exhibits from the amateurs, the trade growers more than made up the deficiency by staging a number of very fine groups. Owing to the different period of the year, this autumn show afforded an opportunity of exhibiting an almost entirely different section of Orchids to that seen at Chelsea in the spring time. Odontoglossums and Miltonias were few and far between, their places being occupied by autumn-flowering Cattleyas and Cypripediums. While many of the exhibits showed that improvements are still being made in certain directions, such as the production of large yellow flowers, it was somewhat remarkable that not a single plant gained a First-class Certificate. This by no means implies that the quality of the plants shown had in any way deteriorated, but it is the result of the high standard set up by the R.H.S. Orchid Committee, who only recommend this award when a plant shows a marked improvement on existing varieties. Four Awards of Merit were granted, but no example of skilful cultivation was brought before the Committee.

Members of the Orchid Committee present: Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), H. G. Alexander, C. J. Lucas, Stuart H. Low, F. J. Hanbury, J. Wilson Potter, E. R. Ashton, A. McBean, T. Armstrong, J. Cypher, F. K. Sander, J. E. Shill, H. T. Pitt, S. W. Flory, A. Dye, and B. J. Beckton (Visitor).

AWARDS OF MERIT.

Cattleya Mimosa var. grandiflora (Venus × triumphans) from Messrs. Cowan & Co. A remarkable hybrid in which the flower is of large size, thick in texture, and with the broadly developed petals prettily crisped at the margin. The sepals and petals are of golden-yellow colour, slightly tinged with bronze, while the flatly displayed labellum is entirely plum-purple in colour, with the lateral lobes enveloping the whitish column, and the marginal region crisped. It is a great advance on the early hybrids of Cattleya bicolor, such as C. Iris and C. Venus.

Vuylstekeara Edna, Stamperland var. (Miltonioda Harwoodii × Odontioda Charlesworthii), from Robert Paterson, Esq., Stamperland, Cathcart, Glasgow. One of the best results obtained by combining the three genera Odontoglossum, Cochlioda and Miltonia. The extended spike bore nineteen flowers and buds, the chief attraction being the bright reddish-scarlet colour evenly distributed throughout all the segments. In this particular example the colour is much brighter than that of other varieties.

Læliocattleya Profusion var. Megantic, from Messrs. J. & A. McBean. Probably the finest variety yet seen of this popular hybrid between C. Hardyana and Lc. Serbia. The flower is much above the usual size of a Cattleya, while the immense petals give it a majestic appearance. In colour it is rosy-mauve, except for the roundly developed labellum, which is bright purple with a very narrow margin of lighter tint, and with some obscure gold veining in the throat.

Cattleya Lady Veitch, Rosslyn var. (Lueddemanniana × Warneri), from H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. In the production of this beautiful flower, albino varieties of both parents were used, with the result that the hybrid is entirely white except for some yellowish colour in the tube of the labellum. The present example is much superior in formation to varieties previously seen.

GROUPS AND OTHER EXHIBITS.

Messrs. J. & A. McBean were awarded a Gold Medal for a superb exhibit in which quality and arrangement were the chief features. This group covered 240 sq. ft., and had the central area composed of Vanda cœrulea intermixed with various Odontiodas. Just in front were well-flowered plants of Vanda Kimballiana, and the pretty Cochlioda vulcanica, with rose-coloured flowers. Cattleyas were in fine form and comprised varieties of Fabia, both coloured and white forms, also C. Anita, of excellent colour, while of the older hybrids a fine specimen was staged in Mantinii. Læliocattleya Profusion created a fine effect with its free-flowering nature. Interspersed among these mauve and purple Cattleyas were several plants of Odontoglossum eximium xanthotes, with white flowers slightly spotted with yellow. Several unusually fine varieties of Odontioda Euterpe were included, the bright red colour being more intense than usually seen. Along the front row were the pretty Odontoglossum aspersum, one of the few natural hybrids in the genus, and Odontioda Red Riding Hood, with bright red blotchings on the segments. Other attractions in this group were the two areas filled with flowering plants of Sophronitis grandiflora which came in for much notice. Several Masdevallias, as well as Epidendrum vitellinum, with its orange-red flowers, and Cymbidium erythrostylum proved effective. Of the Odontoglossums, the best was Desdemona, of violet-rose colour, except for the yellow crest.

Messrs. Sanders were awarded a Silver-gilt Banksian Medal for an extensive exhibit, in which many plants of Vanda cœrulea made an effective background. The chief feature was the fine display made by numerous examples of Cattleya Fabia, which still holds its own as one of the most useful of autumn-flowering hybrids. The majority of these were of a rich mauve-purple colour, but others had white sepals and petals, while in one charming variety the labellum was almost entirely yellow. Another attraction was Cattleya Alcimeda, with a spike of three white flowers. In Cattleya Birucha (Mrs. Pitt × Iris), the flower was of a peculiar bronze-purple tint. Among the Læliocattleyas there were several worthy of mention, but the most attractive was Lc. Queen Mary, with flowers of large size and rich in colour. Miltonia vexillaria was included, also some Odontoglossum hybrids, and the popular Odm. grande. The yellow flowers of Oncidium tigrinum proved exceedingly useful in brightening up the back rows, while in other position one noticed many-flowered spikes of Odontonia brugensis, and some excellent forms of Phalænopsis amabilis. Cypripediums were also staged, the best being the Pitlochrie variety of Rossettii, with greenish-yellow flowers, Alma Gevaert, and Mad. Albert Fevrier.

Messrs. Charlesworth & Co. obtained a Silver-gilt Banksian Medal for a group having the central area filled with fifty well-flowered plants of Dendrobium Phalænopsis, imported early last year from North Australia. On each side were numerous Cattleya hybrids, including Cattleya Fabia alba, with a spike of four flowers, the labellum having bright purple in front and yellow on the side lobes. Læliocattleya Orebus, with coppery yellow sepals and petals, proved attractive, while among the hybrids of Brassavola Digbyana, one called Blc. Golden Crown was rendered distinct by its golden apricot colour. Of the pretty hybrids obtained by crossing Sophronitis grandiflora, this group contained Sophrolælia Gratrixiæ, of light reddish-pink colour, and Sophrolæliocattleya Prince Hirohito, with three flowers of a bright reddish tint. Phalænopsis Esmeralda bore erect spikes of rose-coloured flowers, while in other places were selected forms of Odontoglossums crispum. Two distinct Odontoglossums were staged in Camilla, heavily blotched, and Fabia, with a spike of twenty flowers. Brightness was added by several fine spikes of Oncidium varicosum, and along the front row were Cirrhopetalum Medusæ, with its clusters of small whitish flowers, various Cypripediums, and examples of the new Odontonias.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), won the Challenge Cup offered by members of the Orchid trade for the best group not exceeding 60 square feet, and having won it three times it becomes his property. Cattleyas were specially good, and included several distinct forms of C. Hardyana, some with five flowers on the spike, as well as richly coloured varieties of C. Fabia. Among the Læliocattleyas, mention may be made of one called Carmencita, with yellow sepals and petals and an intense ruby-crimson lip; also of Vega, and of an excellent variety of Mimosa, golden-yellow, except for the ruby labellum. One of the largest flowers was seen in Brassocattleya British Queen, while others in the same section were staged in Bc. Alderman, of rose-pink colour, Bc. Rossita, and in Bc. Penelope, the latter with three very large flowers of mauve-pink colour. Miltonia Wm. Pitt, with crimson-flushed petals, proved very effective, while Odontoglossum harventense was represented by the Rosefield variety, noted for its well-developed segments of deep yellow, spotted with red-brown. Two species were staged in Oncidium Forbesii and Calanthe veratrifolia, while numerous Cypripediums afforded much interest to lovers of these terrestrial plants.

J. J. Joicey, Esq., The Hill, Witley, Surrey (gr. Mr. J. Mackay), also competed in the class for a group of 60 sq. ft. He received a Silver-gilt Banksian Medal for an excellent exhibit, in the centre of which was a superb plant of Vanda luzonica, bearing two spikes with 19 and 14 flowers, respectively. Other meritorious plants were Cattleya Luegeæ, with three large flowers, Læliocattleya Linda, which received an Award of Merit last year, Lc. Profusion, with a spike of five pretty flowers, as well as a choice variety of Brassocattleya British Queen. There were also several varieties of Cattleya Fabia, large and of rich colour, while other members of the genus were staged in C. Enid alba, and in a fine example of C. Alcimeda alba, the spike bearing four large flowers. Vanda cœrulea and Odontoglossum grande made pleasing additions, while well-flowered plants of Miltonia vexillaria made an effective display. Of the several Cypripediums, the popular Maudiæ was shown in excellent condition, as also was Odontonia brugensis, with a mass of rose-purple flowers. Maxillaria picta bore many flowers, and Pilumna fragrans was also included.

Messrs. Cowan were awarded a Silver-gilt Banksian Medal for an excellent exhibit in which the chief feature was the magnificent Brassolæliocattleya British Queen, probably the largest flower yet seen on any Orchid. There were several varieties staged, but all showed particularly fine quality as regards size and formation. Brassocattleya Nora, although not quite so large, was of a richer colour. Among the many Cattleyas we noticed distinct varieties of Fabia, and a more recent production in C. Fabiana (Fabia × Enid), while C. amabilis alba stood out prominently on account of the contrast which the bright purple lip made with the white sepals and petals. In Læliocattleya Rubella the flowers were of rose-purple colour, with a velvety crimson lip; while in Lc. luminosa aurea the sepals and petals were clear yellow. Another excellent Læliocattleya was shown in Lc. Queen Mary, bearing three large flowers of an unusually rich colour. Cattleya Lady Veitch, with pure-white flowers, was represented by several varieties, and Cattleya Rabbi bore flowers of a peculiar bronze-purple. Several elegant Cypripediums were arranged along the front rows, in company with Masdevallia macrura, while at the back was a robust plant of Cymbidium Tracyanum, with strongly-scented flowers.

Messrs. Black and Flory obtained a Silver-gilt Banksian Medal for a noteworthy group composed mostly of yellow-flowering Cattleyas, in which this firm specialises. Taken on the whole, the varieties staged showed a marked improvement on hybrids of only a few years ago, while in some the advance made was certainly conspicuous. Mention may be made of Læliocattleya Olenus, of yellow colour, slightly tinged with salmon, of Lc. Jean, in which the influence of Cattleya aurea is much in evidence, and of Læliocattleya Carmencita, with bright yellow sepals and petals. Another example was seen in Cattleya Thebes, in which a striking contrast is made by the deep-ruby coloured lip in front of the yellow sepals and petals. A couple of excellent Cattleyas with white sepals and petals were staged in C. Hardyana alba, and in C. Eleanore alba. Several noteworthy Brassocattleyas were also included, among them being Bc. Dietrichiana, of intense colour, Bc. Juliet, creamy-white, Bc. Strathmore, of large size and light yellow in colour, as well as several fine varieties of Bc. Alderman, in which the prevailing colour is mauve-pink.

Messrs. Stuart Low & Co. were awarded a Silver-gilt Banksian Medal for an excellent collection of species and hybrids. Among the former were Cœlogyne densa, with a long pendulous spike, Cymbidium erythrostylum, with erect spikes, the pretty Epidendrum vitellinum, a well-grown plant of the scarce Oncidium oblongatum citrinum, and Cattleya bicolor cœrulea, in which the flower has olive-green sepals and petals, and a bluish labellum. Several distinct Læliocattleyas were staged, the best being Linda, of rose-red colour, and Serbia var. Bronze King, with bronze-tinted flowers. Lc. Profusion was also well represented, and came in for due appreciation. Along the back were numerous Oncidiums, their bright yellow flowers being very effective, also an unusually robust example of Odontoglossum Groganiæ (Edwardii × Uro-Skinneri). In the centre was Brassolæliocattleya Titania, of bright chrome-yellow in all the segments, and thick in texture. Various Masdevallias, some pleasing Odontoglossums, and uncommon species were along the front row. Mention may also be made of Cypripedium Lawrenceanum Hyeanum, with its greenish flowers, and of an excellent variety of Cattleya Aeneas.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier). was awarded a Silver Banksian Medal for an interesting group of large specimen Cattleyas, noteworthy on account of the uncommon colour of their flowers. Cattleya Bowringiana violacea bore three clusters of violet-rose flowers, while in C. Bowringiana lilacina the four spikes bore flowers of a pleasing lilac tint. Two fine specimens of Cattleya Browniæ carried numerous flowers, and there was also a good example of C. Portia. In Brassolæliocattleya Antoinette the flowers are roundly formed and of a soft rosy-purple colour, as was well seen in the Gatton Park variety. There were several excellent examples of Cypripedium Maudiæ, also of Bulbophyllum Dearei, Oncidium papilio, Trichosma suavis, and the pretty Stenoglottis longifolia. Masdevallia Chimæra proved of considerable interest to the numerous visitors.

Messrs. Cypher & Son obtained a Silver-Banksian Medal for an excellent exhibit of the leading Cypripediums, including Leeanum, in several varieties, the popular Thalia giganteum, Actæus, Royal George, and Shogun. Most of the plants bore several flowers, and all were in excellent condition. Of the well-known Cattleya Bowringiana there was here shown a dark variety called atro-sanguinea, while other Cattleyas were also represented by selected varieties. A plant that never fails to attract attention was included in Bulbophyllum barbigerum, and another of nearly equal attraction in Cirrhopetalum Fascinator. Spathoglottis kewensis had several erect spikes of rose-coloured flowers. Brassocattleyas and Læliocattleyas were shown in many varieties, also Dendrochilum Cobbianum and Pholidota chinensis.

Mr. Harry Dixon was awarded a Silver Banksian Medal for an attractive exhibit containing the pretty Spathoglottis edinensis, with yellowish flowers, Trichosma suavis, with eight spikes of bloom, Lycaste Balliana, and several pleasing Odontiodas. Pleione lagenaria, of which several were placed in small pans, proved exceedingly attractive, its rose-coloured flowers with the crimson marked labellum being very pretty. Many Cypripediums were also shown, among the best being Rossettii, Dreadnought, Hannibal, and Felicity. Cattleya Sylvia (aurea × Fabia) bore three flowers which were an improvement on the former parent. Læliocattleya Orion, with coppery-orange coloured flowers, and a distinct hybrid of Cymbidium erythrostylum met with approval, while Brassocattleya Nestor, with its large flowers of rosy-mauve colour, received due praise.

A. R. Wilson-Wood, Esq., Timsbury Manor, Romsey, Hampshire (gr. Mr. H. Merryfield), exhibited Læliocattleya Yellowstone (C. aurea × Lc.

xanthina), a pleasing variety with bright yellow sepals and petals; also Cattleya Moira (Fabia × Mantinii), with flowers of a pleasing rose-purple colour, the labellum being more richly coloured.

Mrs. Jervoise, Herriard Park, Basingstoke (gr. Mr. E. W. Latimer), showed Læliocattleya Beatrice de Herriard (C. Veiris × Lc. Ettrick), yellow, with a rich velvety crimson lip; and Lc. Primrose de Herriard (C. Hardyana × Lc. Ettrick), with a spike of three flowers, the sepals and petals cream-yellow, the lip purplish; another variety bore salmon-red sepals and petals.

MANCHESTER ORCHID SOCIETY.

October 1st, 1925.

MEMBERS of the Committee present: A. Hanmer, Esq. (in the Chair), Messrs. R. Ashworth, C. Branch, A. Burns, A. Coningsby, J. Cypher, J. Evans, A. Keeling, D. Losh Thorpe, H. Arthur (Secretary) and W. Thurgood (Visitor).

FIRST-CLASS CERTIFICATE.

Brassolæliocattleya Golden Crown var. Prince Humbert, a well-formed flower with broad segments, and of a beautiful golden-yellow colour, the labellum maroon colour; from H. T. Pitt, Esq., Rosslyn, Stamford Hill, London.

AWARD OF MERIT.

Cattleya Venus and Zygopetalum Blackii (crinitum × Perrenoudii); from H. T. Pitt, Esq.

BOTANICAL CERTIFICATE.

Epidendrum umbellatum, from H. T. Pitt, Esq.

CULTURAL CERTIFICATE.

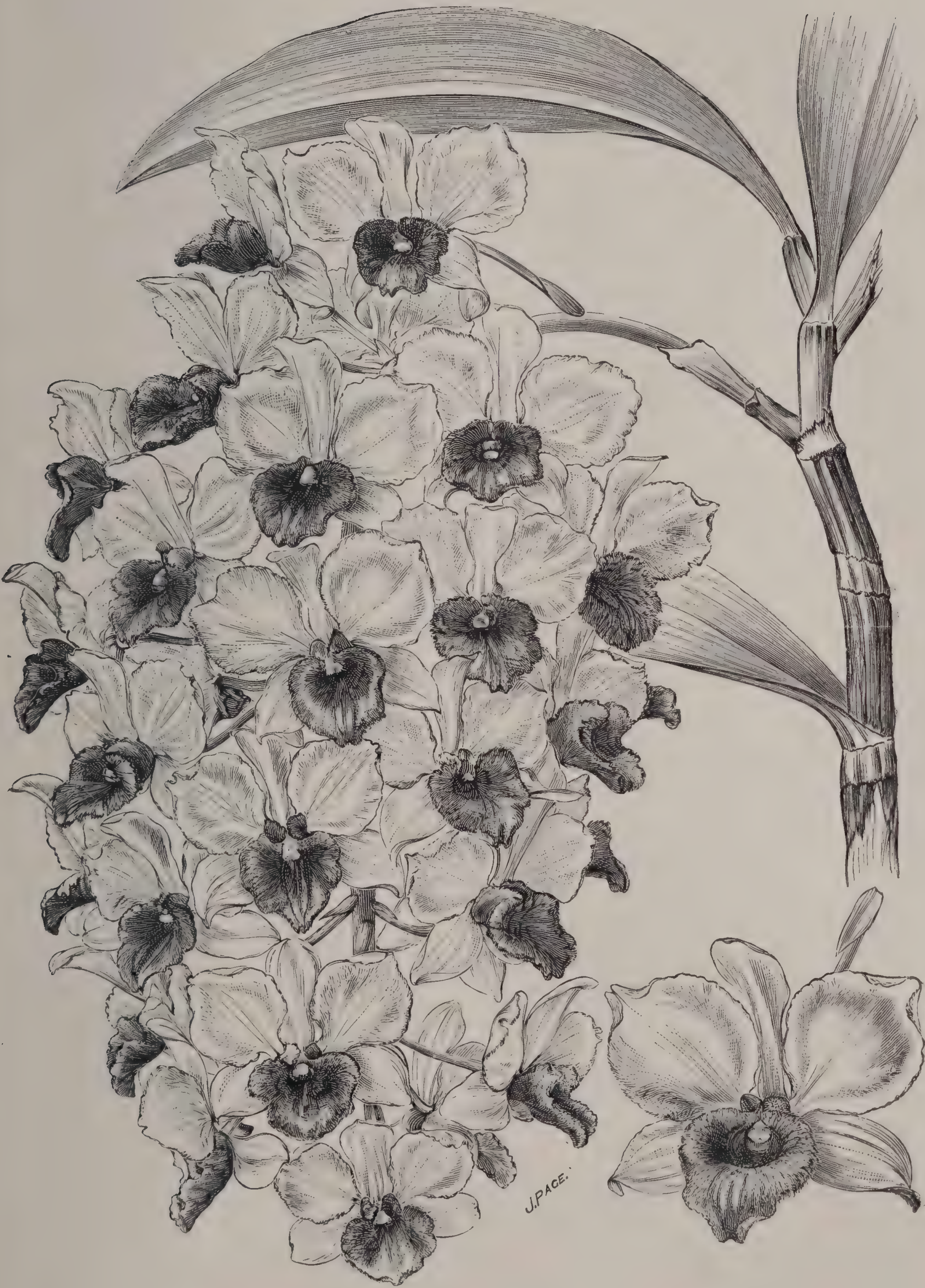
To Mr. A. Burns, for Odontoglossum grande.

GROUPS AND OTHER EXHIBITS.

S. Gratrix, Esq. (gr. Mr. C. Branch), was awarded a Silver-gilt Medal for a fine exhibit of Cattleyas and Cypripediums. A similar award was given to H. T. Pitt, Esq., for a group of rare species and numerous Cypripediums.

Mrs. Bruce and Miss Wrigley received a Silver Medal for a group composed of well-flowered plants of Odontoglossum grande. A large Silver Medal was given to Messrs. J. Cypher & Sons for an exhibit of choice Cypripediums, Miltonias and other hybrids.

A. Hanmer, Esq., Buxton (gr. Mr. G. Giles), staged Brassocattleya Apollo var. His Majesty, and Odontoglossum Alvara. Capt. Wm. Horridge, Bury (gr. Mr. A. Coningsby), staged Cattleya Bellona, Bolholt variety.



DENDROBIUM THYRSIFLORUM.

Mr. J. Evans, Colwyn Bay, exhibited Odontoglossum Gorizia and Angræcum distichum. Messrs. A. J. Keeling & Sons staged Rodriguezia secunda, Cypripedium Fairrieanum, and other Orchids. Mr. J. Birchenall, Alderley Edge, showed Odontonia Pittiæ, and the large-flowering Masdevallia Veitchii grandiflora.

——

October 16th, 1925.

Members of the Committee present: H. Astley Bell, Esq. (in the Chair), Messrs. R. Ashworth, C. Branch, A. Burns, A. Coningsby, J. Cypher, G. Giles, Capt. W. Horridge, E. W. Thompson, and H. Arthur (Secretary).

FIRST-CLASS CERTIFICATES.

Odontoglossum Ithone, a large flower of fine form and texture, pink ground, well marked with deep chocolate; from S. Gratrix, Esq.

Odontoglossum Prince of Wales (Lambeauianum × Perfection), a large well-set flower, reddish purple, the sepals and petals tipped with white; from Mrs. P. Smith.

AWARD OF MERIT.

Sophrocattleya Flammea (Sc. Doris × C. Tityus); from Mrs. P. Smith.

CULTURAL CERTIFICATES.

To Mr. A. Burns, for Epidendrum vitellinum and Odontoglossum grande; Mr. C. Branch, for Odontoglossum Ithone.

GROUPS AND OTHER EXHIBITS.

A. Hanmer, Esq., Buxton, staged a group to which a Large Silver Medal was awarded, Cypripediums and Odontoglossum hybrids being the principal contents.

Mrs. Bruce and Miss Wrigley, Bury, received a Silver Medal for a group containing fine plants of Epidendrum vitellinum, Odontoglossum grande, and its variety aureum, as well as the pretty *Zygopetalum* Balliæ.

Messrs. Cypher & Sons were awarded a Large Silver Medal for a group of Cypripediums insigne Sanderæ, various other members of the genus, and some excellent Cattleyas. Messrs. A. J. Keeling & Son exhibited several attractive Odontoglossums, of which O. amabile and O. plumptonense may be mentioned.

◆

DENDROBIUM HARVEYANUM.—A rare species introduced in 1883 from British Burmah, by the Liverpool Horticultural Company. It is dedicated to Mr. E. Harvey, of Aigburth, near Liverpool, in whose collection it flowered for the first time in this country. Its most striking characteristic is seen in the curiously fimbriated petals, similar to that of the lip of Dendrobium Brymerianum.

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VOL. XXXIII.] DECEMBER, 1925. [No. 390.

NOTES.

ONCIDIUM MANTINII.—Flowers of this natural hybrid come from the collection of B. J. Beckton, Esq., Manchester, and give strong indication of its two parental species—Forbesii and Marshallianum. It is a showy Oncidium, the large flowers being bright yellow, heavily blotched with brown on the sepals and petals, and strongly spotted with similar colour on the labellum.

ODONTIODA ALCANTARA.—From the collection of John Owen, Esq., Linn Brae, Clarkston, Glasgow, we have received a flower of Odontioda Alcantara (Oda. Cooksoniæ × Odm. eximium). The plant is in a 3-inch pot, and flowered for the first time this autumn, when the spike bore seven flowers, in size equalling those of Odm. crispum, but with the pleasing reddish-scarlet colour almost covering the segments. An additional attraction is the violet-rose suffusion of colour around the margin of each segment. As is usually the case with Odontiodas, the crest on the labellum is well developed, and of a bright yellow colour. Oda. Alcantara was originally recorded in 1916, and the present variety is well above the average type, It should further improve as the plant gains in strength.

CŒLOGYNE CRISTATA.—This species was originally discovered by Wallich in 1824. It was introduced to cultivation by Gibson, in 1837, but does not appear to have flowered in England until the spring of 1841. It has at times been discarded, yet there is scarcely a prettier flower, and few are the collections of Orchids without it. Even in other gardens a few plants are found in the greenhouses of the county families. Its snow-white flowers, with yellow in the throat, are graceful and effective, and admired by all. As a plant for indoor use whilst in flower it has much decorative value, and this, coupled with the lasting properties of its flowers, makes it a great favourite with the lady of the house.—*A. C. Lister, Thorpe Lodge, Malton Road, York.*

ORCHIDS AT SUDBURY, MIDDLESEX.—Among the pretty species which have been flowering lately in the collection of J. R. Masters, Esq., Sudbury, Middlesex, is a specimen plant of Cypripedium insigne Sanderæ, which bore eight flowers of primrose-yellow colour. Several hybrids have also made an attractive display, notably Odontoglossum Eldorado, with a tall spike of twelve handsomely blotched flowers, several Cattleyas, Læliocattleyas, and others. It is pleasing to learn that Mrs. Masters is also keenly interested in the cultivation of Orchids, and such enthusiasm should lead to the formation of a large and well-grown collection.

CATTLEYA BICOLOR.—The history of this species goes back to the year 1838, when it was introduced by Loddiges from the neighbourhood of Bananal in the Brazilian province of Minas Geraes, where it is found on the trunks and branches of the largest trees growing along the margins of the numerous small rivers and streams that traverse the district, sometimes forming enormous tufts in and about the forks of the principle branches. It also occurs on the mountains in the province of Rio de Janeiro, at an elevation of 2,000 feet, growing on the rocks as well as on the trees. The sepals and petals vary in colour from a yellow to a bronze-green, while the labellum varies from deep crimson-purple to pale rose. A rare variety of this species was recently exhibited by Messrs. Stuart Low & Co. in C. bicolor cœrulea, in which the labellum is bluish in colour. This particular plant was in existence some 25 years ago, and for a long time seemed to have been lost. It will now be carefully cultivated.

CIRRHOPETALUM MEDUSÆ.—An example of this peculiar species, with its clusters of flowers having the appearance of long, dishevelled hair, was exhibited at the recent Autumn Orchid Show, and led to a discussion as to how many flower-spikes had been produced on any one specimen plant. Members of the Orchid Committee differed in their opinions, and while one person said he had seen ten spikes, he doubted the genuineness of the specimen, having an opinion that it may have been made-up for the occasion. Although ten spikes constitutes a very unusual number, finer specimens have been recorded. The finest example was probably the one seen at the meeting of the Royal Horticultural Society held on September 9th, 1913, when Mr. E. Quincey, of Chislehurst, exhibited a remarkable plant bearing no less than 17 flower-spikes, a Cultural Commendation being awarded. An earlier record of the successful cultivation of this species may be given with respect to a plant in the collection of Sir Trevor Lawrence, Bart. In the year 1897 it produced eleven spikes, and in January, 1905, it was seen with fifteen spikes. This particular plant had been in Sir Trevor Lawrence's collection at Burford since 1878.

ORCHIDS IN THE ROYAL BOTANIC GARDENS, GLASNEVIN, DUBLIN.

By J. W. Besant.

ALTHOUGH hybrids now predominate in most private collections, yet from time to time notes on species appear in the *Orchid Review.* While acknowledging freely the marvellous beauty and form of many of the hybrids, as well as the scientific interest of those of multigeneric origin, the true species must always retain enormous interest to the plant lover, whether botanist or gardener, or both.

At this season, the end of October, the number of species, varieties and hybrids in flower, and showing flower, is considerable, and I cannot attempt to do more than refer briefly to some of the number now in bloom here. Aërides difforme, Ornithochilus fuscus (*Bot. Mag.*, 7385), with long pendulous spikes of small flowers, having dark brown sepals and petals and fringed lip. Angræcum distichum, with thick close-set leaves and smallish white flowers. Bulbophyllum odoratum, with arching spikes of small white flowers, lip yellow. B. Thompsonii, flowers white, also B. Dearei, B. Mannii, B. occultum, and B. crassipes. Catasetum fimbriatum, sepals and petals green, barred with chocolate brown, lip large, spreading, and with reflexed margin. C. macrocarpum, sepals and petals yellowish green, lip orange-yellow, the whole flower spotted with brown. Cochlioda vulcanica and C. miniata (Nœzliana × vulcanica), bearing pretty rose-pink flowers. Cœlogyne barbata, a large plant carrying six spikes. C. ocellata, with numerous pendulous racemes. C. Mooreana, with several fine erect spikes of white flowers.

Cattleya Bowringiana, C. Browniæ, and C. labiata var. Empress, a fine white form. Cirrhopetalum ornatissimum, C. Micholitzii, and C. vaginatum. Dendrobiums in flower are not numerous at present, but D. elongatum is not without attraction. Epidendrum is an interesting genus containing many species, of which one can usually find some in flower. At present, E. difforme is noticeable with its curious green flowers, sepals and petals narrow, lip very broad in comparison, and with reflexed margins. E. glumaceum has erect spikes of white flowers, the lip stained with violet at the base. E. gattonense (Boundii × xanthinum) is frequently in flower, and is quite a good hybrid with terminal umbels of deep-orange flowers. E. vitellinum majus and the similar autumnale are both flowering freely now, and are always admired. Eria æridostachya and E. velutina are interesting members of a genus fairly well represented in botanical collections.

Ione flavescens is a quaint little plant with small yellow flowers almost hidden among the leaves. Lycaste Schilleriana has green sepals with a white lip, and is quite a striking plant when flowering freely. Liparis foliosa, with erect spikes of pink flowers somewhat spotted, is worth a place in a botanical collection. Masdevallias are represented by M. corniculata, Lowii, and macrura, but many others are due to flower later. Maxillaria elegantula and M. picta are both in flower, the latter old and well known, but always welcome for its sweet scent. M. meleagris is likewise blooming at present. The well-known Oncidium varicosum Rogersii is just opening, also O. janeirense, with green sepals and deep-yellow petals. Odontoglossum Uro-Skinneri and O. Humeanum are in bloom, the latter like a pale form of O. Rossii majus. O. Wallisii has sepals and petals blotched with brown, lip white, the front, or near half, stained with rose. Several good forms of O. crispum are coming into bloom.

Pleione præcox Wallichii is already in flower, and will be followed shortly by other species. Pleurothallis, a genus of many species, is represented by P. pulchella and P. velaticaulis. Phalænopsis antennifera has erect flower spikes, each carrying six to seven flowers having deep rosy purple sepals and petals, the lip with erect brownish lateral lobes. Other botanical species in flower are Rodriguezia secunda, with one-sided spikes of rose-pink flowers, the Guatemalan Stanhopea Wardii, Stenoglottis fimbriata, *Z*ygopetalum Clayii and Vanda Watsonii.

Cypripediums, or Paphiopedilums, are represented by the species Haynaldianum, Fairrieanum, Curtisii marmorphyllum, insigne Sanderæ, insigne Harefield Hall, insigne North Star, and insigne Laura Kimball, as well as by numerous hybrids, such as Rossettii, Pollettianum magnificum, Germain Opoix, Harrisianum King George V., Gaston Bultel, Sir R. Buller, Dreadnought and Arthurianum. Selenipediums, or Phragmopedilums, now in flower are S. conchiferum, Sedenii, Schrœderæ, cardinale and longifolium. Hybrids in other genera are Cattleya Iris var. Buttercup, C. Aenæs, C. Mantinii nobilior, Læliocattleya St. George, Lc. Bombadier (C. Adula × Lc. Geo. Woodhams), and Odontonia Longowoyi.

* * *

THREE HYBRIDS OF NIGRITELLA NIGRA.—The *Journal of Botany*, November, 1925, contains descriptions of three hybrids of Nigritella nigra, by Colonel M. J. Godfery, F.L.S. The first is Nigrorchis tourensis (Nigritella nigra × Orchis maculata), which has not been previously described or named. It was found in the neighbourhood of the Glacier de Tours, near Chamonix. The second is Gymnigritella micrantha (Nigritella nigra × Gymnadenia albida), found near the Col de Balme, and new to France; the upward-directed lips indicate the strong influence of the former parent. The third hybrid is Gymnigritella suaveolens (Nigritella nigra × Gymnadenia conopsea), of which two specimens were found after several days' search at the head of the Chamonix valley. The habits of these three hybrids are well shown in an accompanying plate.

ORCHIDS AT FERRIERES-EN-BRIE, FRANCE.

THE collection of Orchids in Baron Edouard de Rothschild's garden at Ferrieres-en-Brie has long been famous, for it was here that the wonderful specimen of Arachnanthe Lowii flowered in so fine a state of perfection during the year 1885, producing 17 pendulous racemes, as is recorded by a photographic illustration in Veitch's *Manual of Orchidaceous Plants*. When the plant flowered again, in 1887, it was even more remarkable, for it produced no less than 650 flowers. The difficulties experienced during the war period were mainly responsible for the death of this historic plant only a few years ago.

One of the large span-roofed houses has the side stages filled with large plants of Læliocattleya Truffautiana (L. tenebrosa × C. Dowiana aurea). There are some hundreds of them, and a number were in flower during the month of October. This hybrid was first raised by Mons Maron, who exhibited it at a meeting of the Société Nationale d'Horticulture de France on October 10th, 1901. A month later it was exhibited by Messrs. Charlesworth & Co. at a meeting of the Royal Horticultural Society, when it received an Award of Merit as Læliocattleya luminosa, a name under which it has been recognised ever since in English gardens.

Other hybrids of Lælia tenebrosa which flower well in Baron Rothschild's collection are Læliocattleya bletchleyensis (L. tenebrosa × C. Warscewiczii), and Lc. Gottoiana (C. Warneri × L. tenebrosa). The centre of this house contains a varied assortment of Brassavola hybrids, ranging from some of the early primary hybrids to a novelty of the present year, this being Brassocattleya Goliath (Bc. Thorntonii × C. labiata), with a spike of five charming flowers. Bc. Mrs. J. Leemann also proves very useful in this section.

Included among the large number of Cattleyas are some fine varieties of C. amabilis alba, as well as of C. Minucia, whose flowers are freely produced. Læliocattleya belairensis (C. Bowringiana × L. autumnalis) is represented by numerous plants which produce tall spikes bearing pretty flowers of medium size; it was originally raised, in 1896, by Mons. Mantin, of Château de Bel Air, Olivet, France.

The Phalænopsis house is constructed with a double roof of glass, and contains over 600 plants, mostly P. amabilis and P. Schilleriana. They are cultivated in pot-shaped baskets of teak wood, filled with a mixture of Sphagnum moss and Polypodium fibre. These plants are in excellent condition, but although P. amabilis flowers regularly, P. Schilleriana is not so satisfactory, for during some years it fails to produce good spikes.

Among the interesting features of the Vanda section are a flowering plant of V. Sanderiana, several examples of V. cœrulea which have been raised from seed, and a plant of V. tricolor bearing two seed-pods, the flower in one case having been fertilised with Phalænopsis Rimestadiana, and in the other with P. Schilleriana. One other interesting plant is here cultivated in Stauropsis Lissochiloides, which carries four seed-pods, resulting from the fertilisation of the flowers with pollen from Vanda suavis and V. cœrulea, respectively.

One of the principal sights in this collection is the house of Vanda teres, numbering some 1,500 vigorous plants growing in a mixture of Sphagnum moss and Polypodium fibre. These plants are not allowed to exceed a height of about three feet ; it is the practice to sever the top portion and place it in another pot. There is a large house full of Cypripediums, numbering several thousand plants, as well as a selection of Thunias, various Sobralias, a fine batch of Miltonias of the vexillaria section, and a special house of Dendrobiums. A well-equipped laboratory is used for the preparation of the culture tubes and flasks in which large numbers of seedlings are raised.

This extensive and famous collection is under the special care of Mons. Poupardin, who is highly interested in his duties, and who takes a pleasure in describing its principal features.

VANDAS AT BRUNOY, FRANCE.

A RECENT visit to the establishment of Messrs. Maron & Son, at Brunoy (S. & O.), France, shows that this firm continues to specialise in the cultivation of Vanda cœrulea, which, as everyone knows, is eminently suitable for decorative purposes. But there are many difficulties connected with its cultivation, and, notwithstanding every care, the plants are very susceptible to an unsuitable atmosphere ; they soon become unhealthy, as may be witnessed in the unslightly spotting of the leaves, which often require trimming with a knife in order to remove the decayed areas.

Mr. Chas. Maron has been cultivating Orchids for over forty years, and his long experience has enabled him to overcome many of the troubles connected with the cultivation of this species. The accompanying reproduced photograph shows the interior of his house of Vanda cœrulea, as it appeared a little before Christmas time some few years ago. In course of time these imported plants lose their vigour, and it then becomes necessary to replace them. For years past it has been the custom to replenish the stock of this species by repeated importations, and this method is still practised by the majority of commercial growers. But a few years ago Mr. Maron decided to cross two of his finest varieties of V. cœrulea, and now he has a vigorous batch of seedlings, numbering over 600 plants. They are a picture of vigour and good health, and have made rapid progress during their four years' of existence. Several of the largest plants have already flowered, and it is expected that a considerable number will produce flower spikes during the autumn of 1926.

From amongst a batch of imported plants, Mons. Maron flowered the scarce Vanda Charlesworthii, a natural hybrid between V. cœrulea and V. Bensonii. Both parents grow together in Burma. He also flowered for the first time in 1903, the interesting Vanda Marguerite Maron which he obtained by crossing V. teres with V. suavis. It is believed to have been

VANDA CŒRULEA FLOWERING IN THE ESTABLISHMENT OF MESSRS. MARON, BRUNOY, FRANCE.

the first hybrid Vanda raised in Europe. A description and illustration of it appeared in the *Orchid Review*, vol. xi, p. 209.

Among the attractive features of this establishment are the large house devoted to the cultivation of Phalænopses, mainly P. amabilis and P. Rimestadiana, all full of vigour and producing many-flowered spikes, and the collection of Brassavola and Cattleya hybrids.

ORCHIDS OF CANADA.

MUCH interesting information regarding Canadian Orchids is given in an article, entitled "Some of Canada's Wild Flowers," by The Lady Byng of Vimy, published in the Royal Horticultural Society's *Journal*, Vol. l., pt. 2, September, 1925.

The following paragraph affords a mental picture of the conditions under which some of the plants exist. "Orchid hunting is as exciting as big-game hunting, for Orchids are as elusive as game. You may wander for days through tangles of undergrowth to likely looking swamps and lakes; you may wade through ankle or knee-deep mud and 'muskeg' to places where, by all the rules of the game, Orchids should abound, but not a sign of them will you see. Then, suddenly, within no more than a few feet of your last failure, you will, after struggling through a jungle of Thuya occidentalis and Hemlock spruce, identical with what you have just left, reach a lake, equally identical with the one a few paces away, and you will catch your breath with joy at the wealth of Cypripedium acaule, spectabile or parviflorum, that surround the water, while tucked away under sheltering branches of the evergreens will be unbelievably tall spikes of Habenaria fimbriata and H. Psycodes."

The following paragraph will appeal to the many persons now interested in the raising of Orchids from seed, although recent results have shown that the presence of fungi is not a necessity. "The uncertainty of the Orchid habitat is due no doubt to the fact that the seeds only germinate where they find the presence of fungi inducing mycorrhiza in Orchid roots. Anyhow the abundance of a certain species in isolated areas and its complete absence a few yards away might well be explained along this interesting scientific line. The truth of the deduction is accentuated by the experience of Mr. H. T. Gussow, of the Experimental Farm, who says, "My endeavours—not altogether successful so far—to grow certain wild Canadian Orchid species from seed seem to emphasize the necessity of the presence of specific fungi in order to obtain that degree of stimulation commonly referred to as symbiosis."

Information regarding the climatic conditions under which certain species thrive is given in the following remarks: "In cold Northern bogs and wet woods, the rarer Ram's Head Lady's Slipper (Cypripedium arietinum) is found, and in the West Calypso bulbosa thrives; also Orchis rotundifolia, in places where it can combine very wet ground with full sun; while the lovely White Mocassin Flower (Cypripedium passerinum) is sometimes found."

The following sixty species grow in Canada:—Aplectrum, 1; Arethusa, 1; Calypso, 1; Calopogon, 2; Corallorrhiza, 4; Liparis, 1; Triphora, 1; Pogonia, 2; Orchis, 2; Malaxis, 2; Listera, 5; Epipactis, 5; Spiranthes, 5; Cypripedium, 6; Habenaria, 22.

AUCTION SALE CATALOGUES.

THE collection of Orchids formed by Robert Smith, Esq., of Brentham Park, Stirling, was sold by auction by Mr. J. C. Stevens on May 30th, 31st and June 1st, 1883. One of the principal buyers on the first day was Baron Schröder, who acquired Cattleya labiata for 30 gns. This species was then very rare, and the plant in question consisted of twelve bulbs and three leads. The same amateur purchased Lælia grandis for 31 gns., Cœlogyne cristata Lemoniana for 13 gns., Odontoglossum nævium majus for 7 gns., O. blandum, with 14 bulbs, for 20 gns., and Læliocattleya elegans for 12 gns. Cattleya Trianæ alba, with thirty bulbs and eleven breaks, was purchased by Sir Trevor Lawrence for 75 gns. Other interesting prices are Oncidium splendidum, 7 gns.; Anguloa uniflora, 6 gns.; Vanda planilabris, 7 gns.; Aërides Lobbii, 10 gns.; Odontoglossum cordatum, 10½ gns.; Vanda Batemanii, 9 gns.; and Cattleya labiata, purchased by Messrs. Veitch for 15½ gns. Oncidium ornithorhynchum album, with thirteen bulbs and two breaks was secured by Baron Schröder for 28 gns.

The second day's sale contained several fine specimens of species, the rarest being Odontoglossum Londesboroughianum, with fifty strong bulbs and ten leads, described as a very fine variety and flowers every year. Other interesting plants were Oncidium splendidum, "very rare, the finest of all Oncidiums," Angræcum Ellisii, "splendid plant with thirteen leaves, the finest specimen in the country of this rare species, flowers every year," and Cœlogyne Massangeana, "a perfect specimen with sixteen bulbs, flowers twice each year—the plant referred to in Williams' *Orchid Album*.

The third day's sale included Trichopilia Backhousiana, "rare, only two other plants in the country, flower twice as large as T. nobilis," Dendrobium thyrsiflorum, with about forty bulbs, Aërides Lobbii "very fine plant, sixteen leaves, superb variety, once had a spike 3 feet long with branches 10 and 12 inches long," Lælia anceps alba, "true, the finest plant of this rare Orchid in the Country, 24 bulbs and 6 breaks," and many other examples of the existing species then cultivated.

Another old catalogue preserved by the Editor is that of a sale of Orchids from Mr. F. Sander, September 19th, 1883, Mr. J. C. Stevens being the auctioneer. The chief attraction was Lot 100, a New Aërides, in flower, very fine specimen, with eight or nine growths, spike two feet long with some thirty flowers. It was purchased by Sir Trevor Lawrence for 235 gns., which at that time constituted the highest sum ever realised for a plant by auction. This specimen was brought home about two years previously, and was described as the only one received. It was subsequently named Aërides Lawrenceæ.

Previous to the purchase of the above mentioned Aerides, the highest sums obtained for single Orchids are believed to have been paid at the sale of R. B. Dodgson's collection, Beardwood, Blackburn, on April 4th, 1883, when Cattleya Trianæ Osmanii made 215 gns. The former was purchased by Mr. Lee and the latter by Mr. B. S. Williams. Mr. Dodgson's catalogue also contained Cypripedium barbatum nigrum, "the finest specimen we have seen, produced 153 blossoms last year, grand specimen for exhibition." Odontoglossum cirrhosum, "produced on one spike as many as 220 flowers," Vanda tricolor Dodgsonii, which realised 20 gns., and Lælia anceps Dawsonii, which sold for 82 gns.

The first portion of the collection of Orchids formed by Henry Lovatt, Esq., of Low Hill, Wolverhampton, was sold by auction by Mr. J. C. Stevens, on April 28th and 29th, 1886. Of the 500 lots, the most interesting plants were Lælia purpurata, "extra fine, broad petalled variety, with about fifty leaves and eleven flower sheaths," 54 gns., Cattleya Mendelii, "grand specimen, thirty-four sheaths, in 18 inch pan," 42 gns.; Masdevalla Harryana, with 250 leaves, in 18 inch pot, £10; Oncidium macranthum, "exceedingly fine specimen, with eight bulbs and two breaks," 17 gns.; Brassia Lawrenceana, "grand exhibition plant, 22 spikes, in 24 inch pan," 10½ gns.; Cœlogyne cristata, Chatsworth variety, immense plant, in 30 inch pan, 19 gns.; Cattleya Warneri, "grand plant with 13 leads, one of the finest varieties known," 75 gns.; Cymbidium Lowianum, 14 bulbs, seven breaks, 70 gns.; Cattleya labiata, seven bulbs, 20 gns.; Lælia anceps Dawsonii, true, nine bulbs, 30 gns.; and Cœlogyne Massangeana, "the finest plant in the country, 30 bulbs, 61 leaves, 14 breaks, has borne seven spikes of 28 flowers each, in grand health and vigour."

By order of Mr. F. Sander, Messrs, Protheroe & Morris sold established Orchids on November 5th, 1886, when Cattleya labiata realised 34 gns.; Calanthe Sanderiana, 4½ gns.; Angræcum Chailluanum, 10 gns.; Aerides Ballantineanum (var. of suavissimum), 9½ gns.; Aerides Wilsonii 11 gns.; Cypripedium Oenanthum, "one of the finest of all hybrids," 12 gns.; and Cypripedium Arthurianum, 15 gns.

HYBRIDISING WITH STORED POLLEN.

IT frequently happens that the two plants we desire to use as parents are not in flower simultaneously, and the only means of overcoming the difficulty is to preserve the pollen of the first flower to open until such time as the second one is ready for its reception. But pollen does not retain its vitality for any prolonged period, and its preservation for even a few weeks needs some care. Experiments made some years ago by Mrs. Thwaites showed that the simple method of wrapping the pollen in tissue paper and placing it in a tin box generally sufficed to preserve it for several weeks. Lælia purpurata was crossed with the pollen of Cattleya Percivaliana which was eleven weeks old, and strong healthy seedlings were in this case obtained. Cattleya amethystoglossa was crossed with Cattleya Trianæ, and in this case the pollen was removed on February 24th and used on April 16th, a period of about seven weeks. Mrs. Thwaites also found that pollen could be preserved by wrapping it in blue paper and inserting it in gelatine capsules. Pollen thus preserved for 3½ months maintained its vitality. The pollen of Brassavola Digbyana was used successfully after six weeks, and that of Odontoglossum Pescatorei and O. crispum after three months, but Cattleya Dowiana aurea and Sophronitis grandiflora proved useless after a very short time.

Mr. Norman C. Cookson carried out various experiments with the storing of pollen, and was frequently able to preserve it for many months with satisfactory results. His method was to take a very small test tube, about an inch and a quarter long, and sterilise it in a spirit lamp flame. As soon as cool enough, the pollen was inserted in the extreme end. The open end was then heated, and as the glass softened it was drawn up until the tube was sealed. Glass being a non-conductor, the heat was not conducted down to where the pollen was placed. When required for use, the pollen was obtained by breaking the tube.

The majority of Orchid flowers remain in good condition for about three weeks, after which decay sets in and destroys the pollen. But if the flowers are cut a short while before decay appears, and placed in a receptacle without any water, the pollen retains its vitality for a much longer period. Although the flower itself may be in a withered condition and appear quite dead, the pollen will continue in good condition for a further period of several weeks. At least, this is the experience of several hybridists. There are many genera as yet untouched by the hybridists, and consequently we have much to learn regarding the keeping properties of their pollen.

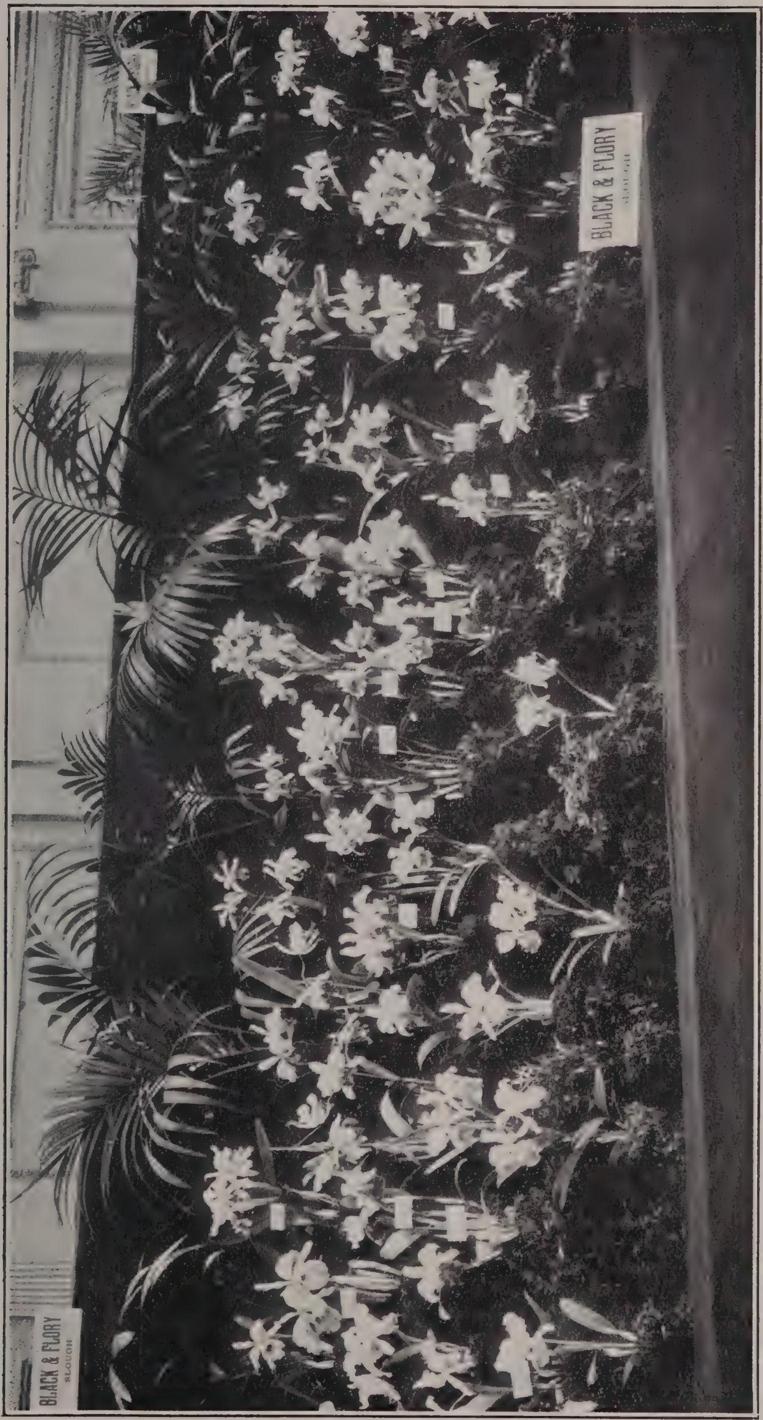
Specially manufactured glass tubes, which may be used repeatedly for the storing of pollen, can be procured from Messrs. A. J. Keeling & Sons, Westgate Hill, nr. Bradford, Yorks.

YELLOW-FLOWERING CATTLEYAS.

THE past few years have witnessed a notable advance in the production of yellow-flowering Cattleyas, and this is entirely due to the skilful work of the hybridists. The four chief species which have been used are Cattleya aurea, C. bicolor, C. velutina and Lælia xanthina. The primary matings gave us several hybrids that served for a long time as useful yellow-flowering plants, among them being such well-known hybrids as Cattleya Iris, C. Maronii and Læliocattleya Ophir. In addition to these several hybrids having Cattleya aurea in their parentage were utilised, not the least important being C. Hardyana, one of the most popular of hybrids, and one which originally appeared as a natural hybrid, but has since been raised in many collections. Mention may also be made of Læliocattleya luminosa and of Lc. bletchleyensis, both of which have been produced by the use of Lælia tenebrosa var. Walton Grange, a semi-albino form which, in conjunction with C. aurea, gives rise to flowers having yellow sepals and petals. This, briefly, is the material from which the most recent successes in the yellow-flowering section have been produced.

Among the trade-growers who have actively interested themselves in the production of choice Cattleyas, no firm has done more work in the breeding of yellow varieties than Messrs. Black & Flory, and it is their intention to specialise in this particular section. Their group of Cattleya species and hybrids at the recent Autumn Orchid Show was mainly composed of flowers having yellow sepals and petals, while a few were almost entirely of this colour. Of special merit were several varieties of Cattleya Thebes, composed of aurea, bicolor and Hardyana, also of Læliocattleya Ettrick, which has C. aurea and Lc. bletchleyensis for its parents. Another attractive hybrid was staged in Lc. Jean, composed of C. aurea, bicolor, Hardyana and L. xanthina; while in several beautiful varieties of Lc. Carmencita (C. aurea × Lc. luminosa) the sepals and petals varied in colour from lemon-yellow to orange-yellow.

Among the yellow-flowering Brassocattleyas there exists an old favourite in Bc. Mrs. J. Leemann (B. Digbyana × C. aurea), and the mating of this with other hybrids has given rise to a long series of elegantly coloured flowers. As an example, mention may be made of Brassolæliocattleya Strathmore, of which several varieties were staged by Messrs. Black & Flory. The primary crosses of Brassavola Digbyana are somewhat lacking in the formation of the sepals and petals, the latter being comparatively narrow, and in order to remedy this defect some of the broad-petalled Cattleyas have been brought into use. A successful result was included in this group under the name Brassocattleya Juliet (Bc. Mrs. J. Leemann × C. chocoensis alba), which showed a marked improvement, the petals being



GROUP OF CATTLEYAS, MOSTLY YELLOW-FLOWERING, EXHIBITED BY MESSRS BLACK AND FLORY AT THE ROYAL HORTICULTURAL SOCIETY'S AUTUMN SHOW OF ORCHIDS, OCTOBER, 1925.

much broader, and of a creamy-white nature, the labellum large, and fringed.

Although a considerable advance has been made in the production of yellow-flowering Cattleyas, there is still much to be done. The work may entail many disappointments, but with the enthusiasm with which our leading hybridists are taking in the task, there is not the slightest doubt that each succeeding year will witness a step further in the direction of our desired object.

VANDA ROXBURGHII.

A RECENT issue of *Annals of the Royal Botanic Gardens*, Peradeniya, vol. ix, pt. 3, contains a note by Mr. T. Petch, B.A., B.Sc., regarding the varieties of Vanda Roxburghii. He states that a "pink" form of this species has been known for many years, and is to be found especially in the neighbourhood of Madu Road. Also, that Mr. G. B. Foote collected another colour variety at Damboul in 1924, in which the flower is yellow. The three known colour forms of this species in Ceylon are described by Mr. Petch as follows.

Normal form.—Sepals and petals greenish grey with a very narrow paler margin, tesselated with slaty grey lines; mid-lobe of lip bright blue; column, and internal face of lateral lobes of lip bluish white, sprinkled with minute blue spots.

Pink form.—Sepals and petals pinkish-brown, tesselated with darker brown lines; lip red-purple; column white, with small purple spots on the back.

Yellow form.—Sepals and petals yellow to greenish yellow, not tesselated except structurally when the flower is old; lip purplish-rose, somewhat brownish above, the two lobes of the lip rather larger and more divergent than in the normal form; column and lateral lobes of the lip pale yellow, not spotted; two small triangular areas, minutely spotted brown, at the base of the lip, just below its junction with the column.

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BRASSOCATTLEYA BRITISH QUEEN.—One of the outstanding features of the recent Autumn Orchid Show was seen in the group staged by Messrs. Cowan & Co. It comprised several examples of Brassocattleya British Queen, which this firm had produced by crossing Brassocattleya Digbyano-Mendelii with Cattleya Lord Rothschild. The flowers of this hybrid are truly immense, and are only rivalled by some of its near relations, such as are occasionally seen in the more recent crosses containing Brassavola Digbyana in the parentage. It is just a year since Messrs. Cowan received a First-class Certificate for Bc. British Queen var. splendens, when exhibited at the Royal Horticultural Society.

ORCHIDS AT BRUSSELS.

AN interesting and attractive Horticultural Show was held in Brussels on October 3rd to 6th in commemoration of the 90th anniversary of the Royal Linnean Society of Brussels. *La Tribune Horticole* describes it as a "bijou exhibition, presented with a consummate art, in which all the exhibits were marvellous." In reality, these words form a true and comprehensive epitome.

The Marché de la Madeleine is admirably adapted for the purposes of such an exhibition. Though, unfortunately, not as large as the R.H.S. Hall in London, it has the advantage of a broad gallery giving additional stage room, and from which, as in the Holland Park Skating Rink, delightful views of the main Hall can be obtained. The organisation of the exhibits was admirable, care being taken that each exhibit added to the general effect. Palms, groups of ferns, foliage plants, etc., were arranged in each corner, enframing and adding, by contrast, to the beauty of the groups of Dahlias, Chrysanthemums, Roses, Carnations, etc.

A prominent feature, missing to a great extent in our English Shows, or confined to classes for buttonholes, bouquets, etc., was the inclusion of "art" exhibits from the various florists. Each exhibit was arranged as a whole, so adding greatly to the diversity and attraction of the Show. Orchid flowers were a prominent feature, notably a superb cross composed entirely of Orchid bloom, while many baskets of foliage and flowers had them freely and tastefully interspersed. The Orchid classes were relegated to the Gallery, and formed an extensive and important portion of the Show. All the groups faced the centre of the Hall, an arrangement which added to the general effect and enabled comparisons to be more readily made.

Mons. Lambeau, President of the Society, staged a magnificent lot of Cattleya hybrids, 150 plants in all, including Brassocattleya Maroni alba, Bc. Helen, Cattleya Falco, Læliocettleya Robertiana, as well as varieties of Lc. Carmencita. Mons. Lambeau received a well-merited Gold Medal for the group.

Mons. Dietrich, of Auderghem, also had a fine exhibit of Cattleyas, Læliocattleyas, Brassocattleyas, etc., as did Dr. Baillon, of Ghent, while Mons. Pauwels, of Ghent, Messrs. Sander et Fils, of Bruges, Messrs. Stuart Low, of England, Mons. Janssens, of Merxem, and Mons. Lanthoine were recipients of Medals.

Each group was tastefully and boldly staged, and the plants evidenced the great care and skill which had been taken in their cultivation. It is impossible to give full details of the varieties, but each group was composed largely of autumn-flowering Cattleya hybrids. Outstanding plants were

Cattleya Souvenir de Mme. Ch. Dietrich and Læliocattleya Marquis de Villalobar, exhibited by Mons. Dietrich; Cattleya Enid var. President Firmin Lambeau and Cattleya Venus var. Ministre Van de Vyvere, shown by Dr. Baillon; Cattleya Kienastiana Sanderæ and C. Fabia ardens, a very dark form,—"incomparable" is the term applied in *La Tribune Horticole*,—from Messrs. Sander et Fils. Cattleya Tembora var. nivalis and Læliocattleya Hirami were shown by Mons. Pauwels; Cattleya Enia alba and Lc. Haroldiana were staged by Messrs. Stuart Low & Co.; and Cypripedium Maudiæ magnificum by Mons. Janssens.

The Exhibition was opened by Mons. Van de Vyvere, Minister of Agriculture, and was well attended by people from all parts of Belgium.

CYRTORCHIS BISTORTA.

THIS plant was originally described by Rolfe as Angræcum bistortum (*Kew Bull.*, 1892), but subsequently transferred by him to Listrostachys, a genus proposed by Reichenbach in 1852 for two West African Orchids. It was collected in the interior of the colony of Lagos, by Sir Alfred Malony. A few years later it appeared in the collection of E. H. Woodall, Esq., of Scarborough, and was referred to in the *Orchid Review*, vol. iv, p. 35, when the late Mr. Rolfe remarked that its great peculiarity is the way the tip of the spur usually remains tucked into the axil of the bract, thus compelling the spur to double up into a loop as it elongates. He further remarked that this, however, is not invariably the case, for if the spur frees itself it then becomes straight, and the question is which is the normal condition. Some years later it was again imported, by Messrs. Mansell & Hatcher, when it was noticed that the remarkable twist in the spur was present in the flowers of the recently introduced plant (*Orchid Review*, xx, p. 79).

More recently, this plant has been placed by Dr. Schlechter in the genus Cyrtorchis, formed by him in 1914 (*Beih. Bot. Centralbl.*, xxxvi, p. 129; 1918). Under the name Cyrtorchis bistorta, the last issue of the *Botanical Magazine* contains a coloured illustration (t. 9039) of this plant, the accompanying description stating that Rolfe's specific name is a misnomer, for, "owing to some distrubance in the development of the inflorescences then in flower, the tips of the spurs had been caught in the pockets formed by the bracts with the result that they were bent in the shape of a S (hence bis torta). The same happened in subsequent years to a specimen received at Kew from Sir Trevor Lawrence; but lately, probably under the influence of altered treatment, the inflorescences have developed normally in the way shown in the plate, which was prepared at Kew in 1924."

CULTURAL NOTES.

DENDROBIUMS.—The flower buds are now fast pushing from the nodes on the majority of the semi-deciduous Dendrobiums. If it is desirable to bring some into flower early, they should be moved from the house in which they have been resting, and given a slightly warmer position and more water. It is important that the change should be gradual, both as regards water and temperature. A house where a minimum of 60° and maximum of 70° is kept would be very suitable. The most important point is to see that they have the maximum of light.

At Gatton, where a house is devoted to their culture, the plants are not shifted at all, but from now, those most forward with their flower buds will be given rather more water than the others, it being the desire to flower them early, when there is little else in bloom. The temperature maintained in December is from 58° on a cold morning to 70° with the aid of sunshine. As the buds develop, a slight increase is made, and more water given. It is during January, February and early March that Dendrobiums are so much appreciated. The flowers at that season last so long, and the plants then make an early growth, which can be much easier matured and ripened. —*W. P. Bound.*

SOPHRONITIS GRANDIFLORA.—This little gem is now in bloom, and its brilliant flowers are always appreciated. The flowers are produced on the partly-made pseudo-bulbs, and care should be taken that no water lodges in the crown of the growth, as it may set up decay of the flower spike and the new growth. Until the flowers are produced, the plants may be afforded water at the roots whenever they are seen to require it. Plants needing fresh rooting material may have attention when new roots are seen to be pushing from the new growth. These remarks also apply to the hybrids of Sophronitis grandiflora, which include some of the most beautiful Orchids in existence. Many of them have the character of being bad growers, but to my mind it is only a question of finding a place to suit them, and the ability to meet their requirements. The powers of observation are a great asset to the Orchid grower, as even plants of the same species vary in their requirements according to their condition. If the plants do not succeed well in one place, try another.

GENERAL WORK.—The cleaning of the houses and their inmates will be the principal work demanding our attention during the present month. It should be made a practice to thoroughly overhaul the Orchids and wash the houses, both inside and out, taking care that the slimy matter, which accumulates between the laps of the glass, is removed, as this allows the atmospheric moisture that condenses to pass away, and so prevents drip. All walls, stages, etc., should be well cleansed. Previous to re-arranging the plants, each one should be thoroughly cleaned, sponging the leaves, stems, and pseudo-bulbs with some approved insecticide. This we make a practice of doing every time the plants are re-arranged. As far as possible we dip the plants entirely overhead, and then clean them in the usual way. We have never seen any ill effects from the use of insecticide in this way. I may also state that we always use it fairly warm, and, if anything, a little under the strength recommended.—*J. T. Barker.*

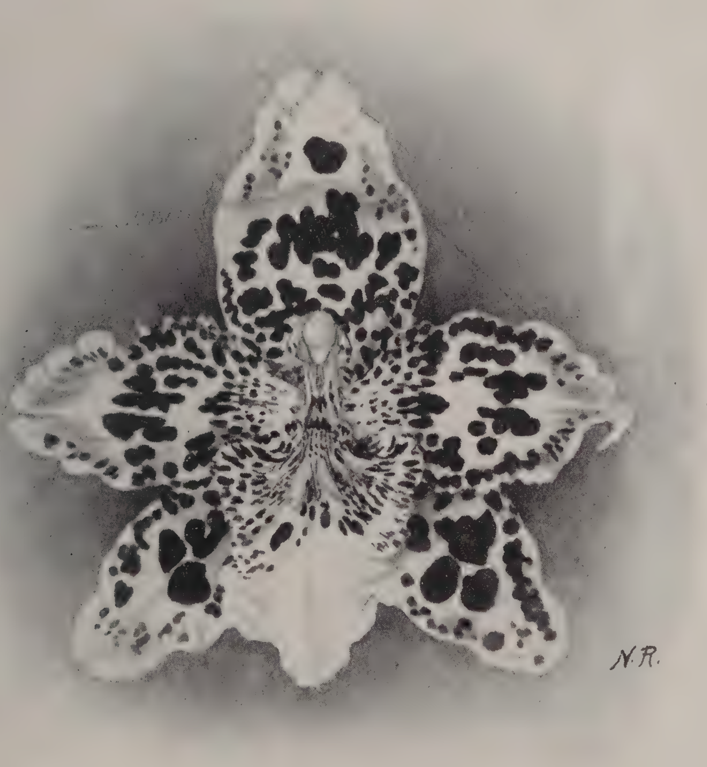
Cypripediums.—In potting these plants, care should be taken not to break the roots. These should be spread out gradually, working in lumpy pieces of peat and loam between them. Do not in any case just fill up the pot with compost and then ram all the roots to the bottom. Careless potting is the cause of half the troubles of Orchid growing, and a well potted plant will never look back. When a plant looks sickly, the fault can generally be found in the potting. Cypripediums are better potted like ordinary plants, that is about half an inch below the rim of the pot, and not mounded up. We find that, unlike many Orchids, they require plenty of pot room, and much better flowers are obtained from plants with plenty of material to feed on than pot-bound plants, and thrip will not be nearly so likely to make its appearance on strong healthy leaves as on those that are stunted.—*W. J. Morgan.*

Sophronitis hybrids.—These constitute a charming series, and should be represented in every collection. Some are rather small, and even the largest do not take up much space. It is best to arrange them in a batch at the cool end of the Cattleya house, or suspend them two feet from the roof glass. By adopting this method their requirements can be studied, and success is assured. The repotting is done at any time, but it is essential for roots to appear at the base of the partly developed pseudo-bulb before operations are commenced. The usual Cattleya compost can be employed, but it must be cut up rather fine, and a fair amount of drainage should be placed in the bottom of the pans. A large quantity of compost about the roots is not needed, but careful watering is needed at all times, while freedom from insect pests is of the greatest importance. A somewhat shady position should be chosen.

Epidendrums.—The tall growing kinds are well adapted for covering walls and pillars. They should be grown in rather large pots, and to produce a good effect, ten or a dozen stems ought to be placed in each. To keep up a healthy stock, it will be necessary to propagate some of the top growths at intervals, so as to have a few pots-full growing on, to take the place of any decrepit specimens. During the summer months the syringe should be used freely, and an occasional spraying with insecticide will hold in check thrip, which at times is rather troublesome to the new shoots.—*T. W. Briscoe.*

ODONTOGLOSSUM ROLFEÆ.

THE more we study the composition of our present-day Odontoglossum hybrids, so much the more do we find how great has been the value of Odontoglossum crispum, Pescatorei, and Harryanum. These three species have been intercrossed in all manner of ways, and the records show that many R.H.S. Certificates have been awarded to the resulting seedlings. More than a quarter of a century has elapsed since Odm. Rolfeæ made its first appearance. It was produced by crossing O. Pescatorei with O. Harryanum, and, as may be seen in the accompanying illustration, the flowers inherit the characteristic features of both parents. Unfortunately, O. Harryanum possesses narrow petals that do not open out to the same extent as the sepals, and this defect can be seen in nearly all of its primary hybrids, although in a diminished degree. But this fault is more than balanced by the extensive development of the labellum of this species, with its beautiful purplish markings and very spiny crest of golden-yellow



ODONTOGLOSSUM ROLFEÆ.

colour. In the primary matings of O. Pescatorei the flower spikes are generally of a branched habit, and O. Rolfeæ forms an excellent example. The constitution may be described as unusually vigorous, hence this hybrid and the majority of its decendants may be confidently recommended for inclusion in amateurs' collections.

EUROPEAN ORCHIDS.

ON the occasion of the Royal Horticultural Society's meeting held November 3rd, the Society's Gold Medal was deservedly awarded to Mrs. Godfery for a highly interesting exhibit comprising 184 water-colour drawings of European Orchids prepared from living plants which had been collected during the last 17 years by Colonel M. J. Godfery, F.L.S. Accuracy in the botanical details and in the coloration of the flowers were special features. In addition to the large number of species represented, there were numerous examples of bi-generic and other hybrids, the whole exhibit being an excellent representation of the extensive Orchid flora of Europe.

All the British species were represented and the following hybrids; Orchis incarnata by elodes, maculata and prætermissa, respectively; O. latifolia by O. prætermissa and by O. purpurella; O. maculata by O. prætermissa. Also the following bi-generic hybrids found in Britain; Cœloglossum viride by Orchis latifolia, O. maculata and Gymnadenia conopsea, respectively; Gymnadenia conopsea by Orchis elodes and also by O. maculata.

Of the Continental Orchids, all species were shown except a few from Eastern Europe, ranging from such rarities as Ophrys speculum, a north African plant which mimics a female bee and has only been found four times on the south coast of France, at great distances apart, to Chamæorchis alpina, found at 7,000 ft. elevation in the Engardine, and Epipogon aphyllum, a saprophyte, which has recently been re-found in Britian.

The drawings of Continental hybrids were very numerous, the most striking being the beautiful crosses between various species of Serapias, and the still more wonderful hybrids between Orchis and Serapias, including Orchiserapias triloba and Orchiserapias Pisanensis, described by Colonel M. J. Godfery in the *Orchid Review* for November. Other bi-generic hybrids represented were Aceras anthropophora by Orchis militaris and O. undulatifolia, respectively; Anacamptis pyramidalis × Orchis fragrans, A. pyramidalis × Serapias lingua; and Nigritella nigra by Orchis maculata, Gymnadenia conopsea and G. albida, respectively. The following new species were also exhibited; Orchis purpurella, Steph., Serapias gregaria, Godf.; Epipactis Muelleri, Godf.; and E. leptochila, Godf.

As an indication of the amount of work which Mrs. Godfery has put into the majority of these drawings, we may mention that one of them showed the flowers of 14 hybrids between various species of Ophrys which had been artificially raised by Mons. F. Denis at Balaruc-les-Bains, South France. They included O. Macchiatii (aranifera × speculum), O. Grampinii (aranifera × tenthredinifera), and also a cross between Macchiatii and Grampinii, which is named O. quadruplospuria, and is thus a triple hybrid. Another triple hybrid figured was O. Denisii (Grampinii × lutea), which is very beautiful. O. Venusta (arachnitiformis × tenthredinifera is also extremely pretty. Both O. Denisii and O. Venusta are well worthy of cultivation.

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NEW HYBRIDS.

Name.	Parentage.	Exhibitor.
Brassocattleya Mrs. Joseph Manda ...	Bc Mrs. J. Leemann × C. Venus	Joseph Manda Co.
Brassocattleya Olbia	C Mrs. Pitt × Bc. Mrs. J. Leemann ...	Charlesworth.
Brassolæliocattleya Cytheria ...	Bc. Mrs. J. Leemann × Blc. The Baroness ...	J. & A. McBean.
Cattleya ardentissima	Fabia × Peetersii	Sanders.
Cattleya Fairy	labiata × Antiope	C. J. Lucas, Esq.
Cattleya Helga	Dowiana aurea × Antiope	Charlesworth.
Cattleya Marquise	Boadicea × Dupreana	Stuart Low.
Cattleya Memoria Maria Bauer ...	Bertii × Warneri	Peter Bauer,
Cattleya St. Andre	Golden King × Fabia	Sanders.
Cypripedium Renfrewshire Lass ...	Pyramus × Lancashire Lass	R. Paterson, Esq.
Cypripedium Uno	Charles Sladden × niveum	C. Cookson, Esq.
Læliocattleya Adrastus	C. Mossiæ × Lc. Lucille	Charlesworth.
Læliocattleya Aurobe	C. Schrœderæ × Lc. Yellow Prince ...	,,
Læliocattleya Beryl	Lc Smilax × Lc Golden Oriole	,,
Læliocattleya Caliph	L. anceps × C. Suzanne Hye	,,
Læliocattleya Cleo	Lc. Soulange × C. labiata	Stuart Low.
Læliocattleya Cleops	C Fabia × Lc. Colmaniana	Sanders
Læliocattleya Coreen	C. Suzanne Hye × Lc Bella	Charlesworth.
Læliocattleya Peter	C. Peetersii × Lc. Vera	Black & Flory.
Læliocattleya Rosemary	C. iridescens × Lc. luminosa	Sanders.
Læliocattleya Royal Standard ...	Lc. Purple Emperor × C. Hardyana ...	Stuart Low.
Læliocattleya Senator	Lc. H. T Pitt × C. Tityus	Black & Flory,
Læliocattleya Senlac	C. Clotho × Lc. Bella	Charlesworth.
Læliocattleya Yellowstone	C. aurea × Lc. xanthina	A. R. Wilson-Wood, Esq.
Odontioda Capella	Oda Hilda × Oda. Memoria F. M Ogilvie	Charlesworth.
Odontioda Clusia	Odm. Gorizia × Oda. Cardinal	,,
Odontioda Geisha	Oda. Ka oa × Oda. Cardinal	,,
Odontioda Icaris	Odm crispum × Oda Mena	,,
Odontioda Ivonne	Oda. Cooksoniæ × Odm. Gorizia	,,
Odontioda Lyria	Oda. Thwaitesii × Odm. majesticum ...	Sanders.
Odontoglossum Ascania	Antinous × Georgius Rex	Charlesworth.
Odontoglossum Jamesianum... ...	crispum × St. James	J. & A. McBean.
Odontoglossum Mercutio	eximium × crispo-Solon	Charlesworth.
Sophrocattleya Alta	Sc. Thwaitesii × C. Maggie Raphael ...	Stuart Low.
Sophrolæliocattleya Adonis	Slc. Anzac × C. Warneri	Charlesworth.
Sophrolæliocattleya Junia	C. Portia × Slc Thisbe	Stuart Low.
Sophrolæliocattleya Lucifer	Lc. Majestic × Slc. Anzac	J. & A. McBean.
Sophrolæliocattleya Radians ...	C. Princess Royal × Slc. Isabella	Charlesworth,

Correction:—The parentage of Læliocattleya Sunshine, page 336, should read Lc. Sunray × Lc. Roumania.

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Show Reports.—The reports of the Bristol Show and of the Manchester Orchid Society are unavoidably held over until our January issue.

ROYAL HORTICULTURAL SOCIETY.

November 3rd, 1925.

MEMBERS of the Orchid Committee present :—Sir Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), Stuart Low, A. McBean, Fredk. K. Sander, J. Wilson Potter, H. T. Pitt, H. G. Alexander, J. E. Shill, C. H. Curtis, E. R. Ashton, C. J. Lucas, and R. Brooman White.

Awards of Merit.

Sophrolæliocattleya Lucifer (Lc. Majestic × Slc. Anzac); from Messrs. J. & A. McBean. A richly coloured hybrid and different in coloration from many others of its kind. The sepals and petals of mauve-purple, tinged with red, and having a pretty sheen, the large and roundly formed labellum velvety crimson-purple, the throat marked with parallel whitish lines. The petals are broadly formed and crisped on the upper margin. The peculiar reddish tint is derived from Sophronitis grandiflora, one of the component species in the Slc. Anzac parent.

Groups and Other Exhibits.

A Gold Medal was awarded to Mrs. Godfery for a highly interesting series of 184 water-colour drawings of European Orchids, species and hybrids both being included. These drawings had been prepared from living plants collected by Colonel M. J. Godfery, F.L.S., during the past 17 years, and showed considerable accuracy in the botanical details as well as in the coloration of the flowers.

Messrs. Sanders were awarded a Silver Banksian Medal for an interesting group, containing several examples of Cattleya Peetersii, bearing four flowers on the spike, some varieties had white sepals and petals. Cattleya Hardyana alba and C. ardentissima were also included, while in Cattleya Minaret, produced by crossing Lueddemanniana and Fabia, the flower showed the characteristic purplish venation on the labellum, derived from the former parent. Cattleya Mrs. Gratrix carried pure-white flowers, as also did Cattleya Freda Sander. Along the back row were several bright yellow Oncidiums, snch as tigrinum and pulvinatum. In front were Bulbophyllum Careyanum and B. cornutum. the latter with a very unpleasant scent, like that of decayed meat, doubtless an attraction to some kind of insect which would fertilise the flower. A species now uncommon was staged in Trichopilia coccinea, and others in the pretty Maxillaria picta and M. cucullata. Cypripediums were well represented.

Messrs. Stuart Low and Co. received a Silver Banksian Medal for an exhibit in which Cattleya Enid alba, Low's variety, stood out prominently on account of its pure-white sepals and petals and rich purple lip. Other Cattleyas were seen in C. Anette, with a spike of three whitish flowers, in C.

Gasper, cream-white and an orange-coloured labellum, as well as in the elegant C. Dowiana Rosita, which although known for many years is still of importance. Some interesting species were staged in Oncidium porrigens, with a tall many-flowered inflorescence, also in O. Harrisianum and the pretty Epidendrum vitellinum. Odontoglossum grande was represented by the typically coloured form and by the yellow variety. Brassocattleya Maronel bore attractive flowers of large size, and an interesting plant was seen in Cattleya Moira var. The Bride, with white sepals and petals. A pleasing yellow form of Cypripedium insigne was staged in the variety Laura Kimball.

Messrs. J. & A. McBean were awarded a Silver Banksian Medal for a select exhibit containing Brassolæliocattleya Cytheria with two flowers of golden-yellow colour, the labellum somewhat darker and with the margin crisped; it is the result of crossing Bc. Mrs. J. Leemann with Blc. The Baroness. This firm also staged several excellent varieties of Læliocattleya Profusion, one with five flowers on the spike, also Lc. Zeno, with four flowers of charming coloration. Sophrocattleya Pearl, with roundly formed flowers of mauve-purple, came in for appreciation. Cattleya Bellona albens, cream coloured, the lip bright yellow margined with rose was very pretty. Other Cattleya hybrids were seen in Enid alba and Fabia alba, while in front were Odontoglossum scintillans, one of the prettiest of the Rossii hybrids, and Cypripedium insigne var. Royalty, with clear yellow flowers.

Messrs. Black & Flory exhibited two elegant varieties of Brassocattleya Alderman, of bright rose-pink colour, a pleasing variety of the new Sophrolæliocattleya Lucifer, and Cattleya Etta var. Perfecta, of medium size, the sepals and petals cream coloured, the labellum rich purple, a contrast that rendered it very distinct.

Baron Bruno Schröder, The Dell, Englefield Green, Surrey (gr. Mr. J. E. Shill), exhibited flowers of Cattleya Esther Waldegrave, of excellent texture and pure-white, also of Cattleya John Henry, of a similar nature, and of Cattleya Elektron, pure yellow, except for a slight crimson tinge on the labellum.

November 17th, 1925.

Members of the Orchid Committee present:—Sir. Jeremiah Colman, Bart. (in the Chair), Messrs. Gurney Wilson (Secretary), Stuart H. Low, J. Wilson Potter, R. Brooman White, F. J. Hanbury, A. Dye, H. H. Smith, T. Armstrong, H. T. Pitt, S. W. Flory, H. G. Alexander, E. R. Ashton, R. G. Thwaites, C. H. Curtis, J. E. Shill and F. K. Sander.

Awards of Merit.

Cypripedium Baldur magnificum (G. F. Moore × Niobe), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury, Glos. (gr. Mr. H.

G. Alexander). A remarkable improvement on the well-known Cypripedium Niobe. The dorsal sepal is flushed with rose and effectively marked with a purplish venation; the petals are broadly crisped on their upper margin, stained and marked with lines of brown-purple, the labellum large and of mahogany-red colour.

Brassocattleya Rosita (C. aurea × Bc. Ilene), from Messrs. Stuart Low & Co. A large flower of rose-pink colour, the broadly developed labellum having the central area golden-yellow and the outer zone dark purple, the margin being prettily fringed. The yellow colour of the former parent is seen in the ground colour of the sepals, which is only partially covered with the rose-pink, thus creating a marbled appearance.

Cypripedium Rosalind (Niobe × Reginald Young), from Messrs. Sanders. A very pretty hybrid much resembling the popular Cypripedium Niobe, but of richer coloration. The dorsal sepal is almost covered with purplish dotting and venation, the petals are yellowish, but this colour is almost hidden by dark lines and spotting; the labellum is roundly formed and of a mahogany-red colour.

Groups and Other Exhibits.

Messrs. Cowan & Co. were awarded a Silver Banksian Medal for an attractive exhibit in which the central object was a richly coloured variety of Cattleya Aeneas, the sepals and petals of chrome-yellow, the labellum mottled with crimson and with yellow venation in the throat area. On each side were fine varieties of Brassocattleya British Queen, with flowers of immense size. Other noteworthy plants were Brassolæliocattleya Thyone, of clear canary-yellow colour, Læliocattleya luminosa aurea and Lc. Pandora. Cypripediums were best seen in Actæus var. Mrs. Page, and in an unusually large variety of Rossettii. An old-time species was staged in Cypripedium tonsum. Odontoglossums were represented by a heavily blotched form of eximium, and by Margarita, of rose-lilac colour.

Messrs. Black & Flory staged Læliocattleya Rajah, yellow, except for the crimson lip, and Lc. Maisie, with three flowers of uncommon coloration. Cattleya Lysander had a peculiar labellum with purplish venation on the whole area, and C. Roderick had the sepals and the petals rose-coloured with purplish reticulation, the lip being velvety-crimson. Cattleya Tagus var. Rhoda was also very distinct, and C. Eleanore alba had white sepals and petals. A large variety of Brassocattleya Alderman, of mauve-pink colour, came in for due appreciation, while in the front was Cypripedium Golden Wren, of yellowish-green colour.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. J. Collier), exhibited a large specimen of Brassolæliocattleya Antionette, bearing eight flowers of bright purplish-rose colour, and of excellent formation. Also Cattleya Ariel, a very distinct hybrid with clusters of lilac-blue coloured flowers. Some interesting species were staged in Cirrhopetalum Medusæ, Cœlogyne barbata, with an erect spike of flowers, the lip bearded with brown hairs, and Masdevallia pachyantha bearing eleven spikes of flowers.

Messrs. Charlesworth & Co. exhibited Læliocattleya Orebus, with sepals and petals of deep yellow, Odontoglossum Marcella, of reddish coloration, O. Alvara, with reddish-brown blotching, and a fine form of Odontoglossum crispum. A very pretty hybrid was staged in Vuylstekeara Rutherford's Sylvia, with a spike of seven rose-coloured flowers, the petals flushed with crimson.

Lieut.-Col. Sir George Holford exhibited a cut spike of Sophrolæliocattleya Nada (C. fulvescens × Slc. Marathon), the four flowers of delicate rosy-flesh colour, the labellum shaded with purple on the outer zone.

Messrs. Sanders staged Læliocattleya Empire, with white sepals and petals and a purplish labellum.

Messrs. Stuart Low & Co. exhibited Læliocattleya Nella, rich purple in the labellum, Brassocattleya Eudora, of rose-pink colour, and other interesting hybrids.

ANSWERS TO CORRESPONDENTS.

CATTLEYAS NOT FLOWERING.—Without seeing the plants it is a little difficult to determine the actual cause of the Cattleyas not flowering. In the first instance one must presume that the hybrids are old enough to produce flowers, say, five or six years, but some come to maturity at an earlier date. Secondly, the bulbs must be sufficiently strong and well ripened. It is of little use growing plants in an atmosphere that resembles a cucumber house, for although comparatively large bulbs may be produced, they are not the kind that are likely to yield the best flowers. Towards the end of the growing season, more ventilation and a brighter light are necessary to bring the growth up to a condition of ripeness or maturity that will not only lead to flower buds, but to flowers of thick texture and substance. Very little can be done to remedy matters during the winter months, and the best advice is to pay more attention to the necessary treatment in future seasons. On some occasions flower-sheaths are produced, but nothing further, at other times flower buds are borne without flower sheaths. There are a few kinds that are always shy flowering, and with these even more care is necessary to ensure the bulbs being well matured. It is impossible to state at what particular hour the shading should be removed, for not only does the English climate vary considerably day by day, but in the localities of large towns the sun-light in autumn is generally much less intense than in the open country.

THE ORCHID CLUB.

THE first meeting of the Orchid Club in the new session was held on November 13th, and, in spite of the very severe weather, was the occasion of a most interesting display of Orchids. At the meeting of the Committee, sympathetic reference was made to the loss by death of Mr. P. Smith, who was a member from the inception of the Club. Three new members were elected. The large attendance of members and friends was an encouraging indication of an increasing interest in Orchid culture and in the work of the Club.

PREMIER DIPLOMAS.

Cypripedium Brigadier, Beckton's var. (Gaston Bultel × Leeanum). The large square dorsal sepal three inches in transverse diameter, incurving slightly at its lowest part, is of a rich burnt sienna colour with crimson speckling specially marked at the periphery where it merges into the whitish margin. The petals, 1½ inches deep, are well displayed, as in C. Gaston Bultel, these, together with the lip, are similar in colour to the dorsal sepal. The flowers are carried on a tall spike.

Dendrobium Phalænopsis album, Beckton's var. The finest white variety known to be in cultivation, the flowers are three inches across and of excellent shape, pure-white with a greenish tinge in the throat of the labellum.

GROUPS.

Mrs. Hardy showed a selection of choice Odontoglossums and Odontiodas carrying full spikes, including a brilliantly coloured variety of Wester with exceptionally large flowers, and many fine forms of Odm. crispum xanthotes. A finishing touch was given to the group by an edging of Oncidium cheirophorum.

Mrs. Stockwell (gr. Mr. G. Weaver) sent a small group of well-grown Cypripediums, including Germain Opoix, Royal George, and others.

Dr. Craven Moore (gr. Mr. W. Gilden) staged a selection of Cypripediums and very fine varieties of white Odontoglossum crispum. The Cypripediums included Corsair, Goliath, Maudiæ, and several specimens of the yellow flowering kinds.

A. T. Cussons, Esq. (gr. Mr. A. Dalgleish) showed a beautiful group, in which many plants of a specially fine variety of Cypripedium Maudiæ were conspicuous. It also included Cyp. Olympus, Selenipedium Dominianum, and the only example of Cymbidium, viz., Doris magnificum, with three full spikes.

W. J. Beckton, Esq. (gr. Mr. W. A. Stewart), staged a group of Cypripediums and various species, among the latter were several strong plants of Epidendrum vitellinum, the beautiful little Pleurothallis astrophora, large baskets of Pleione maculata and P. humilis, Odontoglossum grande aureum, Rodriguezia crispa, Cirrhopetalum O'Brienianum, and a good variety of Miltonia Rœzlii.

F. T. Paul, Esq., F.R.C.S., showed Cypripedium Golden Fleece and the pretty little Cypripedium Tracery.

ORCHIDS AT HARRODS.

During the last two years a novel feature has been made by Messrs. Harrods in the Floral Hall at Brompton Road, Knightsbridge. Arrangements have been made with Messrs. Sanders by which, from time to time, exhibitions of Orchids are held in the Stores. Such an exhibit was held in the second week of November, from Monday to Saturday.

Some 200 square feet were filled with an effective and very varied group of Odontiodas, Odontoglossums, and Cattleyas, the latter including some fine forms of Fabia, Hardyana, and its white-sepalled and petalled variety, also Peetersii alba, Sylvia, and Prince John. Cypripediums were seen in Maudiæ, Thalia, Shogun, The Baron and Leeanum, while Sophronitis hybrids were also staged. Brassocattleya Sir Woodman Burbidge attracted much attention on account of its superb form and even coloration.

The group was tastefully interspersed with tall arching spikes of Odontoglossums, Oncidium tigrinum and O. varicosum Rogersii, while two well-flowered plants of Oncidium pulvinatum were so placed as to show to full advantage their innumerable bright yellow and brown flowers. The group was slightly altered day by day as the sold plants were replaced.

Much interest was created among the numerous patrons of the Stores, and although, as was natural, the Lord Mayor's Show and the numerous other attractions and functions sequent to that ceremony must have kept a number of sightseers away, the show was very well attended. Her Majesty The Queen, accompanied by the Queen of Norway, visited Harrods on Thursday, and spent some time viewing the group of Orchids.

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Sophronitis grandiflora.—In its report of the recent Autumn Orchid Show, *Gardening Illustrated* states: "Occasionally we meet people who say that Orchids do not appeal to them. Mr. F. Kingdon Ward, in 'The Romance of Plant Hunting,' goes out of his way to say many unkind things about Orchids. He refers to 'their blurred and blotted colours, smudged on their mis-shapen faces.' We happened to meet this zealous traveller and plant hunter at the Orchid Show, and he admitted having seen at least one Orchid that day that he really liked. It was the brilliant scarlet Sophronitis grandiflora, a dwarf plant only one inch or so high, with flowers set near the leaves; it was used in Messrs. McBean's group."

DENDROBIUM FARMERI.

THIS elegant species is a native of the lower Himalayan zone, and the Khasia Hills, also in the forests of Moulmein in Burmah, where it has been frequently imported. It was first introduced in 1847, in which year it was sent by Dr. McClelland from the Calcutta Botanic Garden to Mr. W. G. Farmer, of Nonsuch Park, Surrey, to whom it is dedicated. It closely resembles D. chrysotoxum, from which it may be distinguished by its quadrangular stems, looser racemes and differently shaped lip.

When the flowers first expand, the sepals and petals are of a pale mauve, which gradually changes to pure-white. In the *Annals of the Royal Botanic Garden*, Calcutta (vol. viii., p. 57), it is stated: "To this change of colour in the same individual flower is no doubt due much ol the confusion which has occurred as regards the identity of the plant, individuals in the stage in which the sepals and petals are white having been mistaken for D. thyrsiflorum.

D. Farmeri var. aureo-flavum was introduced by Messrs. Low & Co. in 1863 from the Arracan Mountains, and has flowers of golden-yellow, with the disc of the lip deep yellow. In the variety albiflorum, the flowers are white with the disc of the lip orange-yellow. The usual flowering season is May and June, but sometimes earlier.

◆

OBITUARY.—We deeply regret to record the death of Dr. Rudolf Schlechter, at the age of 53, which took place on November 16th, at Berlin-Schöneberg, Germany. Dr. Schlechter was not only a great Orchidologist, but an indefatigable worker, as is testified by his many works dealing with new species and the classification of those previously described. One of his most important works, *Die Orchidaceen von Deutsch-Neu-Guinea*, appeared in 1911, and a few years later *Die Orchideenfloren der südamerikanischen Kordillerenstaaten* made its appearance. These and other works have been reviewed from time to time in our pages. "Some Misunderstood, but otherwise well-known Orchids," is the title of a paper contributed by Dr. Schlechter to the *Orchid Review*, December, 1924. We also have to record with sincere regret the death of Mons. Alexis Callier, President of the Société Royale d'Agriculture et de Botanique de Gand, which took place on November 12th. He was 75 years of age.

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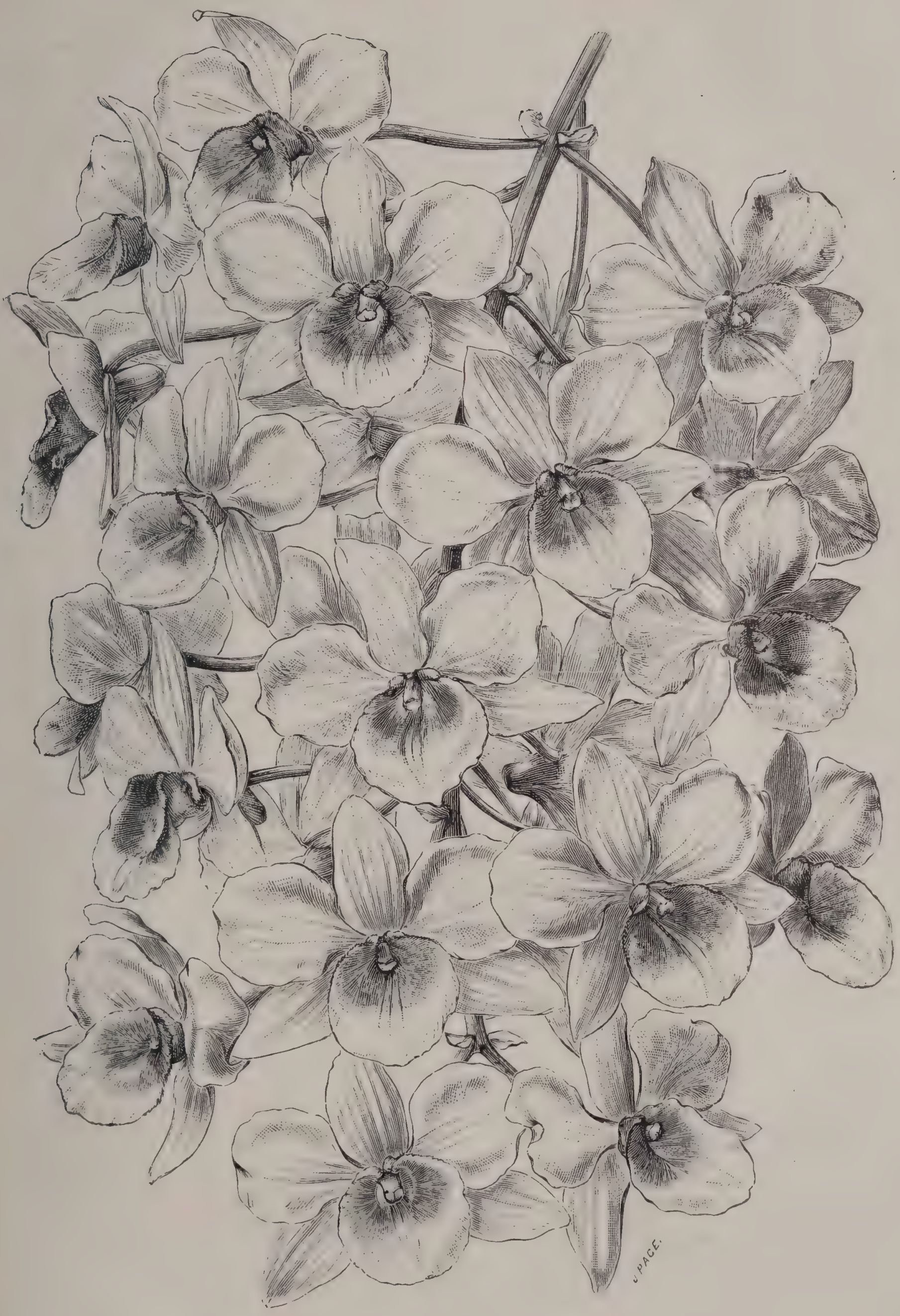
MR. S. FARNES.—We learn that Mr. S. Farnes, formerly in charge of the Ashtead Park collection, has been engaged by F. J. Hanbury, Esq., to act in a similar capacity at Brockhurst, East Grinstead.



DENDROBIUM FARMERI.

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